THE IMPACT OF CABLE TV ON THE VIEWING SHARES OF CANADIAN STATIONS.

TECHNICAL APPENDICES

THE IMPACT OF CABLE TV ON THE VIEWING SHARES OF CANADIAN STATIONS

A Report for the Department of Communications

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1. Introduction

The significant penetration of the Canadian market by cable television (CATV) since the late 1960's, and the probability that market penetration will continue to grow in the future, pose a serious challenge to Canadian regulatory authorities because of the potential effects on viewing habits. Rather surprisingly, many of the studies and analyses undertaken in Canada by official bodies rarely go beyond simple aggregates when the issue of audience fragmentation is concerned.

Our work, though preliminary and tentative, suggests that aggregate data and analyses are disguising some very complex shifts in viewing patterns that have accompanied increased CATV penetration in Canada. While cause and effect cannot always be sorted out as neatly as one would like, we have discovered that through judicious massaging of raw data, considerable light can be shed on this very complicated issue.

The basic raison d'être of this study is to examine seven specific questions related to audience fragmentation resulting from CATV growth:

1. In major market areas (e.g. Toronto, Vancouver, Montreal), U.S. signals are available off-air. Has the audience share changed significantly as a result of the introduction of cable television?

2. Has the expansion of CATV into French speaking areas had a significant impact on the amount of time spent watching French-language stations?

3. Impact might be isolated on a localized basis to determine the differing effects by type of station (CBC, "O & O", CBC affiliate, CTV, independent) and by type of program (network programs - Canadian content distinctive or Canadian content U.S. style; local programs).

4. Have CBC owned stations maintained their share of the viewing market better than CBC English TV affiliates, and if so, is this due to a distinctive program format of (a) network programs, and/or (b) local programs?

5. Does the impact of CATV decrease over time, in major or isolated (rural) market areas?

6. Does the impact of CATV upon audience shares for Canadian stations increase, decrease, or stabilize with the introduction of more U.S. channels (three or four, as opposed to an initial one or two - what is the cut-off point?)?

7. What might be the economic implications of changes in projected viewing patterns?

A summary of conclusions drawn from an October 1972 CBC Research Department Report on Audience Fragmentation and Cable TV is reproduced at this point. The CBC findings are included here because they appear to be a major authoritative source of analysis for some of the issues considered. Consequently,

the CBC conclusions are often referred to in this study as benchmarks of conventional doctrine. Within the body of this report, we will specifically mention whether the CBC conclusions we have selected appear to fit in with our observations.

The CBC Conclusions:

1. There is no evidence that, in general, people who become cable viewers, and who are hence able to avail themselves of the additional channels that cable TV brings, spend any more time watching television than they did before. Rather the total amount of time spent watching remains virtually unchanged and is re-distributed among the several stations, pre-cable and post-cable, that now seek shares of the total audience.

2. In so enabling viewers to watch stations that they would not otherwise have been able to receive, the major impact of cable TV on television viewing in Canada has been greatly to increase the amount of time spent watching U.S. stations. Currently (end of 1971) these U.S. stations have a total share of 19 per cent of all viewing in the country, or 25 per cent of all viewing of English-language stations.

3. Largely because of the monopoly or near monopoly that they had of local area audiences pre-cable, the stations to lose most as a result of cable

expansion have been the CBC English-language affiliates. In contrast, the CBC-owned English-language stations have suffered scarcely at all under the impact of cable TV, located as they were, pre-cable, in areas where audiences were already fragmented and where other stations were available to share the brunt of audience competition from new cable channels. The CBC-owned English-language stations have also benefited more than the affiliates from the direct interchange of audiences in those cases where they have intruded, via cable, into each other's coverage areas. (Answer to question 3).

4. There are also indications that these CBC-owned stations have, in general, been better able than the English-language affiliates to resist the competitive intrusion of U.S. cable channels, partly because of the greater distinctiveness of some of their programs - i.e. because of the greater dissimilarity in character of these programs from the bulk of the U.S. shows on the new channels introduced by cable. (Answer to Question 4).

5. While it is true that there are parts of the country where the impact of cable television has left the audience share situation unchanged, these are exceptional areas where (as in Toronto and in some adjacent areas) all three U.S. network services were already available to local residents directly off-air, either unaided or by means of outside antennae, and cable when it came served essentially to provide better reception of already available channels. (Answer to Question 1).

6. As with the English-language stations, the CBC-owned French-language stations have suffered much less under the impact of cable TV than have the CBC French-language affiliates - largely for the reasons noted in 3 above. (Answer to Questions 2 & 3).

7. A more general trend is reflected in a change in the balance of English/French viewing in the direction of more time being spent, even by the French-speaking population, watching English-language stations and less time watching French-language stations. The expansion of cable TV services among Francophones would appear to have had some influence in this regard, but it is clear that other factors are involved. (Answer to Question 2).

8. Failing remedial action by regulatory intervention by changes self-imposed by the broadcasting or cable industries, or resulting from the establishment of new Canadian stations and/or networks, there would seem every reason to suppose that, as cable TV expands in the future, so those audience trends noted above will continue. (Answer to Question 5).

It should be noted that our study focuses primarily on the November 1968 through the November 1971 time period. Unfortunately, data concerning viewing habits as of November 1972 became available too late for inclusion in the analysis of this study.

2. Glossary of Terms and Abbreviations

CATV	Cable Television
CTV	Canadian Television Network
CBC-AFF-E	CBC - Affiliated - English Language Stations
CBC-O&O-E	CBC - Owned and Operated - English Language Stations
E-I	English Language Independent Stations
F-I	French Language Canadian Independent Stations
CBC-O&O-F	CBC - Owned and Operated - French Language Stations
CBC-AFF-F	CBC - Affiliated - French Language Stations
VS_J	Viewing share of station category j
OA	Off-air
C	Viewed via CATV
O_{ij}	Proportion of hours per person in centre$_i$ watching station j
H_i	Total viewing time in hours
CS_i	Proportion of people in centre$_i$ watching via CATV
CO ratio	Cable - off-air ratio
Major Station	A station category whose off-air viewing share exceeded ten per cent in 1971 in a particular city.
Minor Station	A station category whose off-air viewing share fell below ten per cent in 1971 in a particular city.
Class A	No major competition encountered in a particular city.
Class B	At least one major Canadian competitor of a different station category and no major U.S. competitor in a particular city.
Class C	At least one major U.S. competitor and no major Canadian competitor.
Class D	At least one major Canadian competitor of a different station category and at least one major U.S. competitor.

3. Chronological Summary of Findings

1. Viewing shares for a particular station category in a given medium (off-air or cable) can change over time for any one of the following four reasons:

a) the proportion of hours per person spent watching a given station category in a given city may change;

b) the average number of hours spent by each person in a given city watching TV may change;

c) the population of a given city relative to the total Canadian population may change; and

d) the proportion of the people in a given city watching by CATV may change.

Similarly, viewing shares in a given year for a particular station type can differ between CATV and off-air for any one of the following three reasons:

a) the proportion of hours spent watching a given station category in a given city may differ between the two media;

b) the average number of hours spent by each person in a given city watching TV may differ between the two media; and

c) a given city's proportion of total hours spent watching TV may differ between the two media.

In both cases we define factor (a) as the substitution effect, the remaining

factors are identified as weighting factors. For policy decisions, the substitution effect is critical.

2. a) CBC affiliated French and English language stations are more prevalent in parts of the country in which CATV was not available in 1971. In the areas with CATV available, these stations tend to be more important in the rural areas and/or towns with less than 30,000 population.

   b) U.S. stations are more likely to be available off-air in cities with a population of 30,000 and over, and in regions of the country with access to CATV services.

   c) The viewing shares of CBC owned and operated stations for both off-air and cable viewers are greater in cities with 30,000 people or more, where CATV is available than in other areas of Canada. For CTV stations, the off-air viewing shares is lower, while the cable viewing share is greater in the same cities.

3. The major CBC owned and operated English stations experienced a decline of about 10% in their audience share on cable relative to off-air because of the introduction of new channels or the improvement in the reception of available off-air channels through the cable medium. The competitive effect has cost class B CBC owned and operated English major channels a 4-5% drop in audience share on CATV - and class D majors a

a drop of over 12%. The effects of cable were no greater because the English language CBC owned majors were competing with US channels off-air in many of their markets prior to the introduction of cable.

4. The findings for cities such as Vancouver, Winnipeg, Montreal, London, Thunder Bay and Calgary suggest that when CATV increases the number of U.S. stations available from 0 to one or more, or from one to two or more, the effect on the aggregate viewing shares of Canadian stations will be quite large. Findings for several cities in South-Western Ontario imply that when the number of U.S. stations is increased from two to three or more, the impact on the aggregate viewing shares of Canadian stations is likely to be marginal.

5. Once allowance is made for the effects of different weighting values, the viewing shares of major English language CBC affiliates is demonstrably affected by the introduction of new channels on CATV. It must also be pointed out that the minor stations which are CBC English language affiliates benefited from cable penetration into areas where they were previously unavailable and have offset to some degree the viewing losses encountered by the majors. The near monopoly position of many CBC English language affiliates prior to the introduction of cable, has made them extremely vulnerable to competition.

6. Although the aggregate cable off-air viewing ratio for the

CTV class D majors has been somewhat distorted by the observations for Vancouver and Winnipeg, the available evidence supports the CBC research department contention that the CTV stations lost a larger proportion of their audience to other stations on CATV than did the CBC owned and operated English majors.

7. CATV has had less of an impact on CHCH Hamilton, the English language Canadian independent, than on the CTV and CBC affiliated English language majors, and no greater impact than on the English language CBC owned majors. The finding is not unexpected, since CHCH was available off-air in areas of South-Western Ontario where several U.S. stations were already competing.

8. The U.S. stations have benefited most from increased cable penetration. In centres other than Vancouver and Winnipeg, with class D, U.S. stations, the substitution effect was always positive; that is to the advantage of the U.S. stations. But the size of the effects were fractional. So it appears that in areas where more than one U.S. station is available off-air, CATV does not produce viewing patterns very much different from the off-air distributions.

9. As U.S. stations are made available by CATV in areas of Canada that do not at present have access to cable and do not receive signals off-air, there will be a substantial shift from English language stations to U.S. stations on CATV. Some of the initial inroads made by the U.S. stations

will be cut back over time, but will not be reduced substantially.

10. Improved reception for CBFT Montreal in Eastern parts of Quebec because of cable is responsible for the substantial gains recorded by the French language CBC owned minors on CATV.

11. The cable viewing patterns in Montreal play an important role in explaining the cable/off-air viewing share gaps for the English language CBC owned class B majors, the CTV class B majors, and the French language CBC owned and independent class B majors. The substitution effects in Montreal probably measure a combination of a pure substitution effect and the significantly different audience mix viewing via CATV than via off-air - that is, a higher proportion of English language viewers watch via cable than by off-air in Montreal. The reverse holds for the French language population. In the case of the French language CBC owned and independent class B majors, it is conceivable that if proper allowance is made for this latter possibility, the substitution effects induced by CATV on viewing shares may be no worse than for the English language CBC owned and CTV class B majors.

12. As with the English language CBC affiliates, the French language affiliates were seriously affected by the introduction of additional channels via CATV. Unlike the major English language CBC affiliates, the major French language CBC affiliates lost their audience on CATV

to French language stations emanating from Montreal - not to U.S. stations.

13. Continuing cable penetration, particularly into less urban areas, will produce significant regional effects on local viewing shares, but will have a minimal impact on a national basis.

4. Overview

An examination of the data in Table 1 reveals some of the broader trends in viewing shares which are the subject of this research report. Between 1968 and 1971 cable TV penetration increased from 14.8% to 24.9% of total time spent watching television.

Over this period, the viewing shares of CTV and English language Canadian independent stations (hereafter referred to as E-I) increased dramatically. The viewing shares of CBC affiliated, English-language stations (CBC-AFF-E) and French language Canadian independent stations (F-I) declined precipitously. All other station categories experienced either small improvements or marginal declines in their viewing shares.

On an aggregate level one could infer that the proliferation of cable systems in Canada has been beneficial to CTV and E-I stations and detrimental to CBC-AFF-E and F-I stations. As for the U.S. stations, increased viewing via cable appears to have contributed to a rise in their viewing share.

However, to obtain an additional perspective on the impact of cable on viewing patterns and overall viewing shares, it is advisable to probe beneath the aggregate figures set out in Table 1.

In Table 2, data on the distribution of total time spent watching television

TABLE 1

DISTRIBUTION OF TOTAL TIME SPENT WATCHING TELEVISION
BY CATEGORY OF STATION
AVERAGE WEEK
NOVEMBER 1968- NOVEMBER 1971
ALL CANADA (EXCULDING YUKON AND NORTHWEST TERRITORIES)

CATEGORY OF STATION	1968	1971	%ch.
English-language			
CBC-owned	14.3%	14.4%	0.1%
CBC-affiliated	20.5	15.5	-24.4
CTV	18.4	23.5	27.7
Canadian Independent (including ETV)	2.6	3.2	23.1
U.S. (including ETV)	17.8	19.0	6.7
French-language			
CBC-owned	6.7	7.2	7.5
CBC-affiliated	7.1	6.7	-5.4
Canadian independent	12.6	10.5	- 15.1

Proportion of all viewing that was via cable TV	14.8	24.9

Source: CBC Research Dep't Report, October/72, Table 49-1

are broken down by off-air and cable viewing. The observations that CBC-AFF-E and E-I stations appeared to have been affected by cable TV and its subsequent expansion in Canada since 1968 seem to be confirmed by these statistics. The viewing shares of each of these two types of stations is substantially lower on CATV than on off-air.

For example, in 1971, the viewing shares on CATV of the CBC-AFF-E and F-I stations were only 51 and 64 per cent respectively of the levels reached for off-air viewing. Consequently, as the proportion of total viewing via CATV increases the aggregate viewing shares of CBC-AFF-E and F-I stations decline - as was the situation between 1968 and 1971.

Increased CATV penetration was not the only factor responsible for the sharp declines in the overall viewing shares of the above two types of stations. The viewing shares on both media (off-air and cable) decreased for each of the two station categories during the time period under scrutiny. Thus, not only did CBC-AFF-E and F-I stations appear to become less competitive on CATV vis à vis off-air, but also they both seemed to become less competitive over time on off-air as well.

The data in Table 2 also show that in addition to the CBC-AFF-E and F-I stations, the CTV stations together with the other two French language

TABLE 2

Distribution of Total Time Spent Watching Television by Category of Station, Average Week, November 1968 and November 1971, All Canada (ex. Yukon and Northwest Territories), Off-Air and Cable

Category of Station	Off-Air			Cable			Cable/Off-Air Ratio	
English Language	1968	1971	%Charge	1968	1971	%Charge	1968	1971
CBC-owned	14.6%	14.6%	0.0%	12.5%	13.9%	11.2%	86%	.95
CBC-affiliated	22.0	17.6	-20.0	11.8	9.0	-23.7	54	51
CTV	19.0	25.1	32.1	14.5	18.7	29.0	76	.74
Canadian Independent (incl. ETV)	2.7	2.5	-7.4	2.3	5.2	126.1	85	2.08
U. S. (incl. ETV)	14.9	13.1	-12.1	34.8	36.8	5.8	2.33	2.81
French Language								
CBC-owned	6.8	8.1	19.1	5.9	4.8	-18.6	87	.59
CBC-affiliated	7.1	7.4	4.2	7.0	4.6	-34.3	99	62
Canadian Independent	12.9	11.6	-10.1	11.2	7.0	-37.5	.76	64

Source: Tables 40-2, 40-3, in see Table 1.

stations - CBC owned and operated (CBC-O & O-E) and CBC affiliated (CBC-AFF-E) - perform much worse, in terms of shares of total viewing time, when viewed via CATV than when viewed off-air. The U.S. stations gain the most from CATV, their viewing shares averaging 2 to 3 times higher on CATV than on off-air. The English language Canadian independent station (CHCH-Hamilton, hereafter referred to as E-I) also fares reasonably well on CATV. In fact, its viewing share on CATV experienced a sizeable 126% increase between 1968 and 1971. These findings help explain the overall improvement in the viewing share of the E-I station detected in Table 1.

The inferior performance by CTV stations when viewed via CATV appears to be inconsistent with the net increase in the aggregate viewing share of CTV stations during the period in which the share of viewing via CATV was increasing. (See comparison Table 1 to Table 2). This anomaly can be explained, however, by the fact that CTV stations increased their viewing shares on both off-air and CATV. These increases were more than sufficient to offset the tendency for the aggregate viewing share to decline as cable penetration increased. If CTV stations viewing shares stabilize on both media, then further expansions of CATV in the Canadian market may be accompanied by lower aggregate viewing shares for CTV stations.

In light of the significant differences in the proportion of total time spent watching U.S. stations via off-air and via CATV, one would have

expected a substantial rise in the overall viewing share of U.S. stations between 1968 and 1971. The increase was held to less than 7 per cent because of the decline in the off-air viewing share. In the case of the CBC O & O-E stations, the increase in the off-air viewing share enabled these stations to register a net rise despite a sharp drop in CATV viewing share and the relatively lower viewing share on CATV (Table 2).

The data presented in Tables 1 and 2 would then seem to support conclusions 2, 3, 4 and 6 reached by the Research Department of the CBC and listed in the introduction to this study. The data in the form organized in these two tables are insufficient to enable us to take a strong position on the issues raised in these four CBC conclusions. A closer inspection is required.

5. A Second Look

The proportions listed in Table 2 were originally constructed in the following manner from survey data:

$$(5\text{-}1)\quad VS_j^{OA} = \frac{\sum_i \Theta_{ij} \left(\frac{H}{P}\right)_i^{OA} P_i (1 - CS_i)}{\sum_i \sum_j \Theta_{ij} \left(\frac{H}{P}\right)_i^{OA} P_i (1 - CS_i)}$$

$$(5\text{-}2)\quad VS_j^{C} = \frac{\sum_i \Theta_{ij} \left(\frac{H}{P}\right)_i^{C} CS_i}{\sum_i \sum_j \Theta_{ij} \left(\frac{H}{P}\right)_i^{C} CS_i}$$

where:

VS: viewing share of station category j, (j = CBC-O & O-E; CBC-AFF-E, CTV; E-I; U.S.; CBC-O & O-F; CBC-AFF-F; F-I) in population centre i (i = St. John's, Halifax... Vancouver, Victoria),

OA: viewed via off-air

C: viewed via CATV

Θ_{ij}: proportion of hours spent per person in centre i watching station j ($\sum_j \Theta_{ij} = 1$; $\sum_i \sum_j \Theta_{ij}$ = number of population centres).

H_i: total viewing time in hours in centre i

P_i: number of people in centre i watching television during survey week

CS_i: proportion of people in centre i watching via CATV ($0 \leq CS_i \leq 1$)

Viewing shares for a particular station category in a given medium (off air or cable) can change over time for any one of the following reasons:

1. The proportion of hours per person in centre i spent watching station j may change (Θ_{ij});

2. The average number of hours spent by each person in centre i watching television may change $(H/P)_i$;

3. The population size of centre i relative to the total population of Canada watching television may change (P_i/P) and

4. The proportion of the people in centre i watching via CATV may change $(CS)_i$

The last three factors can be labelled weighting factors, while the first one is labelled a substitution factor. Similarly, viewing shares in a given year for a particular station-type can differ between the two media for any one of the following reasons:

1. Θ_{ij}^{OA} may differ from Θ_{ij}^{C};

2. $\left(\frac{H}{P}^{OA}\right)_i$ may differ from $\left(\frac{H}{P}^{C}\right)_i$; and

3. $\frac{H_i^{OA}(1-CS)_i}{\Sigma_i H_i^{OA}(1-CS_i)}$ may differ from $\frac{H_i^{C}(CS_i)}{\Sigma_i H_i^{C}(CS_i)}$, that is,

the proportion of total off-air viewing hours in centre i may differ from the proportion of total CATV viewing hours in centre i. In this case, the weighting factors are (2) and (3); the substitution factor is (1).

From a policy perspective, it is the substitution factor that should be of primary importance. In this section, we will make some preliminary attempts to control for the weighting factors and isolate the substitution factor.

Our definition of the substitution effect is in fact not a pure (from a theoretical point of view) measure. For it to represent a pure substitution effect, the socio-economic cultural composition of the audiences viewing television by both media would have to be identical. This in turn implies that the demand for CATV services relative to off-air services is independent of income and relative costs of obtaining services, and program diversity. Despite these shortcomings of the substitution effect we measure, we feel it is an adequate indicator in those centres that are primarily unilingual. Indeed, while the issue is not considered directly in other studies in this area, the homogeneity assumption is implicitly accepted for their broader conclusions to hold.

Table 3 presents the distribution of time spent viewing different categories of station for only those areas where cable TV services are available. Thus a better measure of the impact of competition on domestic stations due to the availability of additional U.S. stations is possible.

TABLE 3

DISTRIBUTION OF TOTAL TIME SPENT VIEWING DIFFERENT CATEGORIES OF STATION , BY CABLE VIEWERS, OFF - AIR VIEWERS

AGGREGATED OVER ALL AREAS WHERE CABLE TV SERVICES ARE AVAILABLE

AVERAGE WEEK-NOVEMBER 1971

CATEGORY OF STATION	CABLE VIEWERS	Off-Air VIEWERS	CABLE/OFF-AIR RATIO
English-language			
CBC-owned	13.9%	13.8%	.101%
CBC-affiliated	9.0	13.1	.69
CTV	18.7	25.2	.74
Canadian independent	5.2	3.1	168
U.S. (incl. ETV)	36.8	14.0	263
French-language			
CBC-owned	4.8	9.8	49
CBC-affiliated	4.6	6.9	66
Canadian independent	7.0	14.0	50
Distribution of total hours of viewing between cable and off-air	31.7	68.3	

Source: Table 41 in see Table 1.

In 1971, the year to which the data refer, CATV services were available for 79.4 per cent of the population 2 years of age and over. The viewing shares via cable are the same as those shown in the 1971 column in Table 2 since they both refer to the same population. The viewing shares for off-air viewers are different because of the exclusion of just over 20 per cent of the population in the Table 3 figures. As a result, the data in this table will permit us to examine whether the viewing patterns of off-air viewers in those regions of the country that do not have cable services available is different than in the regions where such services are available.

A comparison of the 1971 viewing shares for the two population groups reveals that viewing patterns do differ. First of all, the high share of off-air viewing time for all French language stations in those regions, with CATV services (30.7% in Table 3) in comparison to the regions without these services. (13.8% in Table A, in appendix) indicates that cable penetration is relatively greater in the French speaking areas of Canada than in the English speaking areas.

Additionally, in both the English speaking and French speaking areas, the proportion of total viewing time devoted to CBC affiliated stations is greater in the regions without cable services. (Compare off-air viewing shares in Table 3 to Table A in Appendix).

Since differences do appear to exist, it is possible that part of the disparities between off-air and cable viewing shares in Table 2 for the various categories of stations can be accounted for by the inclusion of areas with no access to CATV. By comparing viewing shares for only those regions with CATV, a better gauge of the substitution factor may be derived. In other words, by re-weighting viewing shares in this manner we are partially compensating for some of the influences that affect the weighting patterns but not the substitution factor*.

Table 3 shows that the elimination of areas without CATV results in a narrowing of CATV and off-air viewing shares for the English language networks. For the CBC O & O-E, CBC AFF-E and CTV stations, the cable off-air ratio either remains constant or increases. In the case of the CBC O & O-E stations the gap in viewing shares between off-air and cable viewing is almost eliminated, while, the gap, although still rather large, has been significantly reduced for the CBC AFF-E stations. The cable off-air ratios are lower for both E-I and U.S. stations. On the other hand, among the French-language stations, the gap is much larger for both the CBC O & O-F and F-I stations. For the former group, the ratio declined from 59% in (Table 2) to 49% in (Table 3). For the latter group, the ratio fell from 64 to 50 per cent. Only the CBC-AFF-F stations experienced a marginal narrowing of the off-air/cable differential.

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*To get an accurate measure of the substitution factor requires re-calculating the viewing shares via both media for all station categories using equal values for cable share in all population centres; that is, assuming the same degree of penetration in all areas.

The viewing share figures in Table 3 tend to contradict the observation that "the CBC owned French-language stations have suffered much less under the impact of cable TV than have the CBC French-language affiliates". (Conclusion 6, CBC Research Department). The other conclusions reached by the CBC Research Department and stated at the outset of this study still appear valid.

The exercise undertaken in the construction of Table 3 was repeated for a smaller sample of cities. The group in this sample consisted of the 30 cities with populations over 30,000 where CATV services were available* in 1971. The 30 cities contained 65 per cent of the total population of areas that had access to cable services. More specifically, the sample contained 84 per cent of all CATV viewers in 1971 and 56 per cent of all off-air viewers in areas where CATV services were available. One other modification was incorporated into the construction of the viewing share distribution for this sample and presented in Table 4. It was assumed that the average number of hours per person spent watching television was the same for off-air and CATV viewers and for all 30 cities. Thus, the values in Table 4 were derived as follows:

$$(5\text{-}3)\quad VS_j^{OA} = \sum_i \left[\theta_{ij}^{OA} \left(\frac{P_i(1-CS_i)}{\Sigma_i P_i(1-CS_i)} \right) \right]$$

$$(5\text{-}4)\quad VS_j^{C} = \sum_i \left[\theta_{ij}^{C} \left(\frac{P_i(CS_i)}{\Sigma_i P_i(CS_1)} \right) \right]$$

where the symbols have the same meaning as before.

A comparison of Table 4 with tables 2 and 3 yields several interesting observations.**

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*For list of the cities see Table B in the Appendix.

**See also Table C in the Appendix.

1. CBC affiliated stations, both French and English language, are more prevalent in parts of the country in which CATV was not available in 1971. In the areas with CATV available, these stations tend to be more important in the rural areas and in towns with less than 30,000 population.

2. U.S. stations are more likely to be available off-air in cities with a population of 30,000 and over and in regions of the country with access to CATV services.

3. The viewing shares of CBC O & O-E stations for both off-air and cable viewers are greater in cities, with 30,000 or more people, where CATV is available than in other areas of Canada. For CTV stations, the off-air viewing share is lower, while the cable viewing share is greater in these same cities.

4. The CBC O & O and Canadian independent French language stations appear to be concentrated in the larger urban centres in Quebec and are either unavailable or the reception is poor off-air in the smaller urban centres and the rural parts of Quebec and the Maritimes.

A comparison of the cable/off-air viewing share ratios in Tables 2, 3 and 4 yields some startling differences. For example, the CBC affiliates, both languages, in the sample of cities used in the development of Table 4, do not appear to have had their viewing shares affected in a

TABLE 4

Distribution of Total Time Spent Watching Television by Category of Station, by Cable Viewers, Off-Air Viewers, In Those Cities with a Population over 30,000 Where CATV Services are available, average Week, November 1968 and November 1971

Category of Station	Off-Air			Cable			Cable/Off-Air Ratio	
English Language	1968	1971	% Charge	1968	1971	% Charge	1968	1971
CBC-owned	17.4%	15.8%	-9.2%	15.6%	15.7%	0.1%	90%	99%
CBC-affiliated	5.1	5.4	5.1	7.3	6.7	-8.2	143	120
CTV	22.9	22.9	0.0	17.4	19.4	11.5	76	84
Canadian Independent (incl. ETV)	5.6	5.1	-9.0	2.9	5.3	82.8	52	104
U.S. (incl. ETV)	22.3	19.8	-11.2	41.9	41.5	-1.0	188	210
French Language								
CBC-owned	9.2	13.3	44.6	4.5	4.3	-4.4	49	32
CBC-afiliated	0.9	1.6	77.8	2.2	1.5	-31.8	244	94
Canadian Independent	15.4	16.9	9.8	7.9	5.1	-35.4	.51	30
Proportion of all viewing that was via CATV				21.0	41.0	95.2		

Source: Tables 10.1 to 39.3 in see Table 1. See text page 25 for description of techinque used in derviving the values in this table.

detrimental manner by CATV. Indeed, for the English-language affiliates, the viewing share on CATV exceeded the share on off-air in both 1968 and 1971; whereas for the French-language affiliates, despite a substantial decline between 1968 and 1971 in the viewing share via CATV, the viewing share ratio did not lie significantly below unity (100%).

These findings stand out in sharp contrast to the much lower cable/off-air ratio reported in Tables 2 and 3 for the CBC affiliates. Consequently, the comprehensive nature of CBC conclusions 3 and 6 is questionable. To determine which ratios most accurately reflect the substitution effect requires a more disaggregated look at the data.

Another important difference that one discovers is that the two remaining French-language network categories - CBC O & O and Independent perform relatively worse on CATV vis à vis off-air in the 30 city sample than they did in the previous two groups. For both station groups, the cable/off-air ratios hover at around 50% in 1968 and 30% in 1971 in Table 4 in comparison to the 87% and 60% levels in 1968 and 1971 respectively in Table 2. As a result the French language viewing losses stemming from increased cable penetration may be significantly greater than the preceeding data indicated. Again a more disaggregated examination is required.

As for the remaining station categories the figures in Table 4 support the view that CBC O & O-E stations encounter marginal declines in their CATV

viewing shares compared to their off-air viewing shares, and that U.S. stations made substantial inroads on CATV. The viewing losses on CATV do not appear to be as large for the CTV network as they seemed to be in Tables 2 and 3, whereas, the viewing gains for CHCH-Hamilton do not seem as large in Table 4 as in the preceding two Tables.

Table 5, similar in form to Table 1, was set up using the data in Table 4. Unlike the values in Table 1 the CTV and E-I stations do not record substantial improvements in their overall viewing shares and the CBC-AFF-E stations do not experience a significant decline. In the case of the third group of stations, their superior performance on CATV in the 30 city sample was the primary factor responsible for converting the 24.4 per cent decline in viewing share in Table 1 into a 7.3 per cent increase in Table 4. A secondary factor was the ability of these stations to maintain their viewing shares in both media. In the case of the CTV stations in the 30 city sample, their relatively lower viewing share on CATV was not affected by large gains in their audience shares on off-air and on CATV.

The CBC O & O-E stations experienced a 7.1 per cent decline in Table 5 compared to 0.1 per cent improvement in Table 1. The drop in the off-air viewing share was the principal factor behind the aggregate decline. Among the French language stations, both CBC categories of stations performed better than they did in Table 1. In the case of the CBC AFF-F stations

TABLE 5

Distribution of Total Time Spent Watching

Television by Category of Station in Those Cities with Population over 30,000 where CATV services are available

Average Week

November 1968 - November 1971

Category of Station			
English language	1968	1971	%Change
CBC - owned	17.0%	15.8%	-7.1%
CBC - affiliated	5.5	5.9	7.3
CTV	21.7	21.5	-1.0
Canadian Independent (incl. ETV)	5.0	5.2	4.0
U.S. (incl. ETV)	26.4	28.7	8.7
French language			
CBC - owned	8.2	9.6	17.1
CBC - affiliated	1.2	1.6	33.3
Canadian Independent	13.8	12.1	-12.3
Proportion of all viewing that was via CATV	21.0	41.0	95.2

Source: Data in Table 4.

their higher cable/off-air ratio was responsible for the improvement; whereas, for the CBC O & O-F stations their lower cable/off-air ratio was more than compensated for by a large increase in off-air viewing share.

In order to obtain a better estimate of the size of the substitution factor, the data for the 30 city sample were used to construct a new table of viewing shares. This time, the θ_{ij} s, the proportion of viewing time in city i spent watching station category j, were weighted by the relative size of the population in city i. Cable penetration was assumed to be equal in all thirty cities. In addition, the same 1971 population weights were applied for both the 1968 and 1971 values. The data reported in Table 6 were developed as follows.

$$(5\text{-}5) \qquad VS_j^{OA} = \left[\sum_i \theta_{ij}^{OA} \left(\frac{P_i}{\Sigma P_i} \right) \right]$$

$$(5\text{-}6) \qquad VS_j^{C} = \left[\sum_i \theta_{ij}^{C} \left(\frac{P_i}{\Sigma P_i} \right) \right]$$

Differences between and among various viewing shares in Table 6 reflect differences in the θ_{ij} s. As a result, they enable us to calculate the most accurate measure thus far, of the viewing substitution effect.

Concentrating first on the cable/off-air ratios, we find that for the English language stations, these ratios are more in line with those presented in Table 4 than with those in Tables 2 or 3. For the French language stations, the reverse is true, the ratios in Table 6 resemble more closely the values in Tables 2 and 3 than the ones in Table 4.

What does all this mean?

1) The off-air CATV viewing share gaps for the Canadian, English language stations, especially the CBC affiliates and the CTV stations, do not appear to be as large as the CBC research Department concluded. In other words, the impact of CATV has not been to create a substantial shift from Canadian English language to U.S. stations in this group of cities. Moreover the gaps have tended to narrow over the time period studied (CBC O & O stations proving an exception).

2) The viewing shares of the CBC AFF-E and CTV stations on CATV have held up reasonably well in comparison to the CBC O & O-E stations when one makes allowance for the weighting factors. Thus CBC conclusion 3 although still supported by the data in Table 6, does not appear to be important when considering future policy decisions.

3) The U.S. stations do gain substantially because of CATV, but the cable/off-air viewing share ratio does not appear to be in the three range (2.81, Table 2) but more in the 1½ to two range. The incursions made by the U.S. networks on CATV seem to come primarily at the expense of the French language stations, although marked inroads are also made into CTV viewing shares.

4) The off-air CATV viewing share gaps are substantial for the French language stations. For the CBC O & O-F and F-I stations, the effects of CATV are not likely as drastic as they appeared in the data in Table 4.

Thus, up until this point, one would have to support the aggregate CBC conclusions (with the possible exception of number 6) although one could argue their relative importance from a policy point of view. Nevertheless, these observations must be

regarded as only tentative thus far. To support a definitive position on the questions posed in the terms of reference for this study, a more disaggregative examination of the data is required in order to separate weighting factors from the substitution factor.

TABLE 6

Distribution of Total Time Spent Watching Television by Category of Station, by Cable Viewers, Off-Air Viewers In Those Cities with a Population over 30,000 Where CATV Services are Available, Average Week, November 1968 and November 1971

Category of Station	Off-Air		Cable		Cable/Off-Air Ratio	
English Language	1968	1971	1968	1971	1968	1971
CBC-owned	17.2%	16.2%	17.4%	14.9%	101%	92
CBC-affiliated	6.7	6.7	3.5	6.1	52	91
CTV	22.8	23.8	18.0	20.1	79	84
Canadian Independent (incl. ETV)	5.2	5.3	4.8	5.1	92	96
U.S. (incl. ETV)	22.3	22.6	40.2	38.3	180	169
French Language						
CBC - owned	8.7	10.4	5.1	6.8	59	65
CBC - affiliated	2.1	2.2	1.6	1.4	76	64
Canadian Independent	14.0	12.6	9.3	8.0	66	64

Source: See Table 4. See page 31 in text for explanation of method used in constructing the statistics in this table.

6. A Third and Closer Look

Market Classifications

In this section we examine more closely the effects of CATV on television viewing patterns. The analysis in this section differs from that in the preceding ones in two ways:

1. Each of the seven Canadian station categories is disaggregated by importance and/or clarity of off-air reception in each of the 30 cities, and cross-classified by type of competition that they face.

2. The weighting factors and the substitution factor are isolated for twelve major centres (comprising 85 per cent of the total population of the 30-city sample) in which there are substantial changes in the viewing shares or off-air and cable viewing weights.

In each city, each station which had viewing share of at least 0.5 per cent ($\theta_{ij} \geq .005$) was classified as either a major station in the particular city if its off-air viewing share exceeded ten per cent in 1971, or a minor station if the off-air viewing share fell below ten per cent (major station $\theta_{ij} \geq .10$; minor station if $.005 \leq \theta_{ij} \leq .10$ in 1971). Stations that were available in more than one city could be classified as major in some of the cities and minor in the others in which it could be received off-air. Moreover, the U.S. stations were generally treated as a single entity and thus were considered as a single major station if their total viewing share exceeded ten per cent.

Each of the stations was then cross-classified according to the degree of competition that it encountered in a particular city. Four classes of competition were selected. Class A involved no major competition encountered in the market. Major stations in class A have, in effect, a monopoly on off-air viewing. Class B entailed at least one major Canadian competitor of a different category of station and no major U.S. competitor. For example, if two CBC-AFF-E stations in a given city both received more than ten per cent of the viewing shares they would both be considered as major stations but would not be regarded as competitors for each other. If no other stations in the city were labelled major stations, then competition class for the two CBC-AFF-E stations would be A - no major competition. Class C included at least one major U.S. competitor, but no major Canadian competitor; while Class D covered the cases in which there were at least one major Canadian competitor of a different category and one major U.S. competitor.

Given this 2 by 4 grouping of stations in each city one would expect CATV to have the most significant impact, inasmuch as CATV would make available additional stations, on the major, class A, B or C stations. Major, class D stations would be facing extensive competition off-air and as a result the number of competing stations would not likely be greater on cable. The Canadian minor stations would likely register increases in cable vis à vis off-air viewing shares in all competition classes since CATV would improve the quality of reception of these groups of stations - poor reception quality being a principal factor, in most cases, for their being classified as minor stations.

These expectations can be summarized in the form of the following hypotheses:

1. The cable/off-air viewing share ratio should be lowest for the major class A competition stations and the highest (exceeding 100 per cent) for the U.S. class B stations and the Canadian minor, Class A, B and C stations.

2. In between the preceding extremes, the remaining station cross classifications should rank as follows: in terms of ascending cable/off-air ratios: major, Class B or C, major Class D, minor Class D and U.S. Class D.

The above rankings are intended to reflect the competitive factor only. Thus, it is important, as has been pointed out in the previous parts of this study to separate the weighting factors from the competitive factor in order to get a proper measure of the impact of CATV on viewing patterns. If this separation is not made, then one will come across such perverse findings as the cable off-air viewing ratio for major CBC-AFF-E Class A Competition stations being 325 per cent in 1968 and 267 per cent in 1971 (Table 9). This is in direct contrast to hypothesis one above. However, when adjustments are made for changes in viewing weights, these ratios fall to 0 per cent (Table 11).

In the 30 city sample, the viewing shares were constructed as follows:

$$(6\text{-}1) \qquad VS_j^{OA,C} = \sum_i \theta_{ij}^{OA,C}\, \omega_i^{OA,C}$$

where $\omega_i^{OA} = \dfrac{P_i(1-C_i)}{\sum_i P_i(1-C_i)}$ and $\omega_i^{C} = \dfrac{P_i C}{\sum_i P_i C_i}$

(See page 6 above for definitions of symbols.)

Taking the time derivative of both sides of the above expression

(6-2) $$\Delta VS_j = \sum_i \left[(\omega_i \, \Delta\theta_{ij}) + (\theta_{ij} \Delta\omega_i) \right],$$

where $\sum_i \omega_i \Delta\theta_{ij}$ is the substitution effect and $\sum_i \dot{\theta}_{ij} \Delta\omega_i$ is the weighting effect. Since discrete rather than continuous observations were used, the values for ω_i in the substitution effect expression and θ_{ij} in the weighting factor expression were simple averages

Four sets of calculations were made:

Change in off-air viewing share for station category j between 1968 and 1971:

(6-3) $$_{1971}VS_j^{OA} - {}_{1968}VS_j^{OA} = \sum_i \left[\left(\frac{{}_{1968}\omega_i^{OA} + {}_{1971}\omega_i^{OA}}{2} \right) \left({}_{1971}\theta_{ij}^{OA} - {}_{1968}\theta_{ij}^{OA} \right) + \left(\frac{{}_{1968}\theta_{ij}^{OA} + {}_{1971}\theta_{ij}^{OA}}{2} \right) \left({}_{1971}\omega_i^{OA} - {}_{1968}\omega_i^{OA} \right) \right]$$

Change in CATV viewing share between 1968 and 1971:

(6-4) $$_{1971}VS_j^{C} - {}_{1968}VS_j^{C} = \sum_i \left[\left(\frac{{}_{1968}\omega_i^{C} + {}_{1971}\omega_i^{C}}{2} \right) \left({}_{1971}\theta_{ij}^{C} - {}_{1968}\theta_{ij}^{C} \right) + \left(\frac{{}_{1968}\theta_{ij}^{C} + {}_{1971}\theta_{ij}^{C}}{2} \right) \left({}_{1971}\omega_i^{C} - {}_{1968}\omega_i^{C} \right) \right]$$

Difference between off-air and CATV viewing shares in 1968:

(6-5) $$_{1968}VS_j^{OA} - {}_{1968}VS_j^{C} = \Sigma \left[\left(\frac{{}_{1968}\omega_i^{OA} + {}_{1968}\omega_i^{C}}{2} \right) \left({}_{1968}\theta_{ij}^{OA} - {}_{1968}\theta_{ij}^{C} \right) + \left(\frac{{}_{1968}\theta_{ij}^{OA} + {}_{1968}\theta_{ij}^{C}}{2} \right) \left({}_{1968}\omega_i^{OA} - {}_{1968}\theta_i^{C} \right) \right]$$

Difference between off-air and CATV viewing share in 1971:

$$(6\text{-}6) \quad {}_{1971}VS_j^{OA} - {}_{1971}VS_j^{C} = \sum_i \left[\left(\frac{{}_{1971}\omega_i^{OA} + {}_{1971}\omega_i^{C}}{2} \right) \left({}_{1971}\theta_{ij}^{OA} - {}_{1971}\theta_{ij}^{C} \right) + \left({}_{1971}\theta_{ij}^{OA} + {}_{1971}\theta_{ij}^{C} \right) \left({}_{1971}\omega_i^{OA} - {}_{1971}\omega_i^{C} \right) \right]$$

A. English-Language Stations

(1) CBC Owned & Operated

In the 30 city sample, this group of stations experienced a 9.2 per cent decline in off-air viewing share, and a marginal increase in the viewing share among CATV viewers. A look at Tables 7 and 8 reveals that the drop in off-air viewing share would have been greater had it not been for the gains made by the minor stations and the major, Class B competition stations; while the reverse holds in the case of the CATV viewing share. That is, had it not been for the sharp losses encountered by these same stations, the overall gain would have been much greater. Turning to Table 9, we can detect some unexpected results. Surprisingly, the cable/off-air ratios are generally larger for the major stations, contrary to expectations in hypotheses (1) and (2). Moreover, no discernible patterns appear for the relative values of the cable/off-air (CO) ratios for Class B and Class D, major stations. One would have expected the CO ratio to be greater for the Class D majors as was the case in 1971. In 1968, though, the CO ratio was greater for the Class B majors.

In order to obtain a clearer picture of the effects of CATV, the weighting factors for twelve major cities were netted out from the figures in Tables 7 and 8. Looking at the CO ratios in Table 11, and the percentage change in off-air viewing shares attributable to the substitution effect of CATV in Table 12, we find that for the major CBC O & O-E stations, the viewing share on CATV is approximately 90 per cent of the level on off-air. In other words, these groups of stations have experienced a decline of about ten per cent in their audience on cable relative to off-air because of the

introduction of new channels or the improvement in the reception of previously available channels through the CATV medium.

The Class B majors appear to have been adversely affected to a lesser degree by cable than the Class D majors contrary to expectations. The competitive factor has cost the Class B majors a 4 to 5 per cent drop in audience share and the Class D majors a drop of over 12 per cent. In addition, whereas in Table 9 the Class D majors appeared to be improving their viewing share on CATV over the time period studied while the Class B majors seemed to be facing a deteriorating situation, the figures in Tables 11 and 12 detect a small negative trend in the CO ratios for both types of stations.

The anomaly in the relative values of the CO ratios of the Class B and D majors in Table 11 can be partly explained by the behaviour of CBMT in Montreal (a Class B, CBC O & O-E major). Its viewing share on CATV was 4.2 and 2.5 percentage points greater in 1968 and 1971 respectively than in the corresponding years on off-air. Because of Montreal's large population, the competitive factor in Montreal accounted for 0.9 and 0.6 percentage points of the difference between total off-air and CATV viewing shares for Class B majors in 1968 and 1971 respectively.

This rather unexpected development in the viewing patterns in Montreal might be explained in the following way. The English speaking population of Montreal are more likely to be cable subscribers than the French speaking population. The superior quality of reception of English language, U.S.

stations on CATV would support this contention. As a result, the viewing patterns on CATV vis à vis off-air may reflect two factors: (1) the relative differences in the viewing habits of French-speaking and English-speaking residents in Montreal; and (2) the substitution of U.S. stations for Canadian stations in the viewing patterns of CATV viewers.

If this view is correct, then the substitution factor in Montreal has been overwhelmed by the first factor listed above. Thus, the adjusted CO ratio in Table 11 for the Class B major stations understates the substitution effect induced by CATV and so accounts for the superior performance of Class B majors on CATV relative to the Class D majors.

A look at the Ottawa-Hull viewing patterns reveals a substantially negative substitution effect, large enough to more than offset the positive substitution effect in Montreal (Appendix Table D). The viewing share of CBOT in Ottawa was 22.4 and 23.1 per cent on CATV in 1968 and 1971 and 36.9 and 35.2 per cent on off-air in the same two years.

As for the class D majors, the largest negative substitution effects were recorded in Vancouver and Winnipeg. In both cities there was only one major U.S. competitor available off-air in contrast to other class D cities in which there were generally two or three major U.S. stations available off-air. CATV increased the number of U.S. stations accessible to both cities and so the overall increase in the number of stations available on CATV is likely to have produced a further and significant fragmentation of viewing time,

producing a marked decrease in the viewing shares of CBUT Vancouver and CBWT Winnipeg (CBC O & O-E, class D majors).

Indeed the off-air viewing share in 1971 of CBUT was 25.4 per cent, while the CATV viewing share stood at 20.5 per cent. For CBWT - Winnipeg, the off-air and CATV viewing shares in 1971 were 37.4 and 26.8 per cent respectively. The above findings imply that when CATV increases the number of major U.S. stations available in a given city from 0 to 1 or more or from 1 to 2 or more, the effect on the aggregate viewing shares of Canadian stations will be quite large. However, when the number of U.S. stations is increased further when there are at least two stations available off-air the impact on the viewing shares of Canadian stations is likely to be marginal.

(2) CBC - Affiliated

In Tables 2 and 3 the C/O ratios for this category of stations were well below unity (100 per cent). In fact the highest level attained by the C/O ratio in either table was 69 per cent. In Table 4 the C/O ratios exceeded 100 per cent. Thus, Tables 2, 3 and 4 appeared to provide conflicting information.

Referring to Table 9 we see that the C/O ratios for the minor stations generally exceed the ones for the corresponding major stations and that while the overall C/O ratio for the major stations declined between 1968 and 1971 the CO ratio for the minors rose during this period (Table 9).

As a result, although the viewing share gains of the minors on CATV were not quite enough to offset the losses of the majors, the performance of the minor stations on CATV did enable the overall C/O ratio for the CBC-AFF-E stations to remain above unity (100 per cent) in 1971.

Even though the relative sizes of the C/O ratios for the major and minor stations in Table 9 conform to hypothesis! the exceedingly large values for the major stations (with the exception of the Class B, majors) are inconsistent with hypotheses 1 and 2.

Therefore to derive some consistency in the various figures presented for the CBC-AFF-E stations, a careful analysis of the major stations seems warranted.

Station CKPR in Thunder Bay is the major, Class A station. The CO ratio exceeds 260 per cent in both 1968 and 1971 because the degree of cable penetration in Thunder Bay is well above the average for the 30 cities - 64 per cent compared to 21 per cent in 1968 and 80 per cent compared to 41 per cent in 1971. Hence, the cable weight is far greater than the off-air weight; that is, $\omega^{C}_{\text{Thunder Bay}} > \omega^{oA}_{\text{Thunder Bay}}$ for both 1968 and 1971

Removing the effects of weighting yields negative C/O ratios for the Class A, major. (In Tables 11 and 12 the C/O ratios are listed as 0).

Because of the monopoly position of CKPR off-air, the availability of other stations on CATV has produced a substantial erosion in its viewing share among cable viewers. In fact, in Thunder Bay the magnitude of the substitution effect is greater than the aggregate off-air shares for the class A, major CBC AFF-E stations (see Tables 7 and D).

Since the cable viewing share for CKPR is in excess of 0 per cent - 42.2 per cent in both 1968 and 1971 - the substitution effect cannot be greater in size than the value of the corresponding off-air viewing share (VS_j^{oa}). The calculations made for station CKPR point out that the values derived for the weighting and substitution effects are only approximations although rather reasonable approximations.

In the case of the Class B majors, when the weighting changes are netted out, the 1968 C/O ratio declinesdramatically from 115 to 15 per cent, and the 1971 ratio also falls but by a smaller margin, from 59 to 35 per cent (See Table 11). The substitution effect for the Class B, majors resulting from an increase in the number of stations available on CATV is substantial, (as can be detected in the last two columns in Table 12), and especially in the London, Ontario area (Table D).

For the Class D major stations, allowing for the weighting factor reduces the C/O ratio but still leaves it at 100 per cent or higher (Table 11). However, the C/O ratio for the viewing shares calculated under the assumption of equal cable penetration in all cities stands at 50 per cent

for the Class D majors (final column, Table 11), indicating a rather large substitution effect on CATV. This finding is corroborated by the figures in Table 12 that show the net substitution effect (for CHEK in Victoria) to be equal in value to the aggregate off-air viewing share (VS_j^{oa}) in both 1968 and 1971.

Once allowance is made for the effects of different weighting values, it becomes clear that CATV has significantly reduced the viewing shares of major CBC AFF-E stations. The data presented in Tables 2 and 3 were more indicative of the effects of CATV on viewing shares and the conclusions, in particular, conclusion 3, reached by the CBC Research Department on the effects of CATV are most likely correct. At the same time, though, it must be remembered that the minors have benefited from CATV and have offset to some degree the viewing losses encountered by the majors. Finally, if we look at Table 8, we find that the majors have experienced sharp declines in their CATV viewing shares between 1968 and 1971. If, however, the weighting effects are removed, we find in Table 10, the majors' viewing shares have decreased, but not as much as the unadjusted data indicate.

(3) CTV

In the preceding two sections, we have seen that the CTV stations have either maintained or increased their viewing shares on both off-air and cable and that the C/O ratios for these stations have been well below those for the CBC O & O-E stations, ranging between 60 and 90 per cent. It thus appears that a significant number of viewers on CATV switch from watching a CTV station to another category of station, generally an American station,

when additional stations are introduced on cable, but that some of these viewers return to watching the CTV stations after some period of time.

Looking at Tables 7 and 8, we find that the off-air viewing share of the Class B majors has risen between 1968 and 1971, while the Class D majors suffered a drop in their off-air viewing shares. With regards to CATV viewing shares, the roles are reversed; that is the Class B majors experienced a decline, and the Class D majors an increase. However, when the effects of changing weights are removed, then we discover (Table 10) that the Class B majors registered gains in viewing shares on both media; the Class D majors recorded losses in both areas and that overall the major CTV stations had small increases in both their off-air and cable viewing shares.

In Table 9, the C/O ratios for the various classes of CTV stations seem to confirm hypotheses 1 and 2; the minors have gained via CATV, while the majors have incurred some losses; and the Class D majors have fared better on CATV than the Class B majors. But we find in Tables 11 and 12 that the latter observation is the product of weighting changes favourable to the Class D majors. Once the weighting factors are removed, the C/O ratios for the Class B majors exceed the ratios for the Class D majors, especially in 1971.

In Table 12, we can see that the magnitude of the substitution factor on CATV was about the same for both the Class B and Class D majors in 1968.

In 1971, the substitution factor became less important for the Class B majors, but increased substantially for the Class D majors. Thus, while the Class B and D majors ranked sixth and seventh (Table 13) respectively in 1968 in terms of the substitution effect of CATV, the Class B majors rose to fifth in 1971 and the Class D majors dropped to ninth surpassed by the French language CBC O & O and Independent stations. Once again, as in the case of the CBC O & O-E stations the class D majors were more seriously affected by CATV than the Class B majors, contrary to hypotheses 1 and 2. But again the behaviour of the viewing patterns of the CTV stations in Montreal, Vancouver and Winnipeg (CFCF, CHAN and CJAY) can explain away much of this inconsistency.

In Montreal, the substitution factor boosted the CATV viewing share of CFCF (Class B major) by 0.4 percentage points over the off-air viewing share in 1971. This unexpected occurrence could be reflecting a higher proportion of English language viewers (and hence a smaller proportion of French language viewers) on CATV than on off-air. The large adverse substitution effects for the French language stations in Montreal seem to support this argument. Comparing the experience of the CTV station in Montreal to that of the CTV station in Ottawa (also a Class B major) we find a marked difference. In Ottawa, station CJOH suffered a sharp drop in the proportion of viewing time (θ_{ij}), the off-air proportion in 1971 standing at 43.3 per cent and the CATV proportion being 28.5 per cent. In Montreal, the viewing proportion in 1971 was higher on CATV than on off-air. Moreover, in Ottawa, the substitution effect worked towards decreasing the aggregate Class B majors viewing share (VS_j) by about one percentage point below the

corresponding off-air viewing share in 1971. If the CATV off-air viewing patterns in Montreal had not been affected by the apparent different French language - English language mix of the viewers, then the overall C/O ratio exclusive of the weighting effect for the CTV class B majors would have been lower and perhaps even below the ratio for Class D majors.

As for the Class D majors, the substitution effects in Vancouver and Winnipeg accounted for most of the difference between the off-air viewing shares and the CATV viewing shares net of the weighting factors in both 1968 and 1971. As pointed out earlier, a threshhold effect might have been responsible for the significant substitution factor in these two cities.

Only one major U.S. station was available off-air in each city. Cable increased the number of major U.S. stations. Nevertheless, the substitution effect was greater for the CTV stations than the CBC O & O-E stations in both cities. That is, the CATV viewing proportions were relatively much lower than the off-air proportions for the CTV Class D majors than in the case of the CBC O & O-E Class D majors. Thus, although the aggregate C/O ratio for Class D majors may have been somewhat distorted by the observations for Vancouver and Winnipeg, the available evidence supports the CBC contention that the CTV stations lost a larger proportion of their audience to other stations on CATV than did the CBC O & O-E stations.

(4) Canadian Independent

In sections 4 and 5 one peculiarity appeared in the various values presented for this group of stations (or more accurately this station - CHCH

Hamilton is the sole E-I major and together with CICA Toronto comprise the E-I minors, with CHCH being dominant in this class) namely the near doubling in the CATV viewing share between 1968 and 1971. The size of the increase would indicate that weighting changes were important in producing this sizeable increase. A look at Tables 10 and 11 supports this view. With the weighting effects removed, the growth rate in the CATV viewing share declines markedly for the Class D major, from 76.9 to 19.2 per cent and the C/O ratio in 1968 rises from 47 to 78 per cent.

With regards to the effect of the introduction of additional stations on CATV on the CATV viewing share, we find in Table 9 that the C/O ratios for the minors exceed both the ratios for the major, and 100 per cent. Tables 11 and 12 indicate that the C/O ratio for E-I major approximates the C/O ratios for the CBC O & O-E majors and that the substitution effect is no worse for the E-I major than for CBC O & O-E majors. Thus, one could conclude that CATV has had less of an impact on CHCH Hamilton than on the CTV and CBC AFF-E majors and no greater impact than on the CBC O & O-E majors. This conclusion is not unexpected since CHCH was available off-air in areas of south-western Ontario where several U.S. stations were already competing.

(5) U.S.

The U.S. stations have benefited most from increased cable penetration. Their viewing shares on CATV have consistently exceeded the viewing shares on off-air (see Tables 2, 3 and 4). The reason for this is that in many Canadian cities, the U.S. stations are not available off-air and in

several others in which they can be viewed off-air, the quality of reception is inferior to that of Canadian stations.

The C/O ratios in Table 9 corroborate this argument. The largest viewing gains were made by the Class B, U.S. stations, the ones that were either not available off-air or whose reception was poor in quality. The Class D stations also recorded increases in their cable viewing shares relative to their off-air viewing shares, but their C/O ratios despite exceeding 100 per cent, were well below the ones for the Class B stations.

Adjusting the viewing shares for changes in weighting patterns had an insignificant effect on the Class B viewing share ratios (Table 11), indicating that the substitution factor was of utmost importance in explaining the cable off-air viewing share gaps. As for the Class D stations, the C/O ratios, especially the 1971 value, were lower after the weighting effects were removed, though they still surpassed 100 per cent.

A look at some of the 12 major cities reveals that the bulk of the CATV viewing gains for the Class B stations occurred in Montreal. U.S. stations were poorly received off-air. This factor together with Montreal's large weight (ℓ^C) resulted in a positive substitution effect increasing the aggregate CATV viewing shares by 5.4 percentage points over the off-air viewing shares in both 1968 and 1971 (see Table D). In fact, the substitution effect in Montreal explained about one half of the difference between the cable and off-air viewing shares for the Class B stations in 1968 and 1971. Much of the remaining difference can be accounted for by

the substitution effects in London, Ottawa-Hull, Thunder Bay and Winnipeg. For example, in 1971 the off-air and CATV viewing proportion ($\theta_{ij}^{oa}, \theta_{ij}^{c}$) in each city was as follows: London 4,44.3; Ottawa-Hull 0.9, 24.6; Thunder Bay 7.7, 57.8 and Winnipeg 20.9, 45.2.

In the case of the Class D stations, the introduction on CATV of three U.S. stations in addition to the major station available off-air, KVOS - Bellingham, produced a dramatic increase in the overall U.S. viewing share on CATV in Vancouver relative to the share off-air - 42.5 per cent off-air to 60.6 per cent on cable in 1971. This significant shift in Vancouver together with a rather substantial weighting shift accounted for all the difference in the aggregate off-air - CATV viewing share gap for the Class D stations in 1968 and for over 60 per cent of the difference in 1971. In terms of the substitution effect alone, the behaviour of viewing patterns in Vancouver accounted for 70 per cent of the overall substitution effect in 1968 and about 85 per cent in 1971.

In the other centres with Class D U.S. stations, the substitution effect was always positive, that is to the advantage of the U.S. stations, but the size of the effects were fractional. So it appears that in areas where more than one U.S. station is available off-air, CATV does not produce viewing patterns very much different from the off-air distributions.

Finally on the matter of trends, we find in Table 10, that <u>in toto</u> the U.S. stations experienced marginal declines in their viewing shares on both CATV

and off-air, with the Class B stations losing a fair amount of ground on CATV. These findings suggest that as U.S. stations are made available on CATV in areas of Canada that do not at present have access to cable and do not receive U.S. signals off-air, there will be a substantial shift from English language stations to U.S. stations on CATV. Additionally, some of the initial inroads made by the U.S. stations will be cut back over time, but will not be reduced substantially.

B. French-Language Stations

CBC Owned and Operated

Two features stood out in the data presented in the preceding two sections for this group of stations.

1. Increases were made in both the off-air and CATV viewing shares between 1968 and 1971; and

2. The C/O ratios were quite low in general (Table 9) and exceedingly low for the 30 city sample. The latter observation casts in doubt the CBC Research Department conclusion number 6.

The first observation is not the result of favourable weighting factors. In Table 10, where the weighting effect is removed, the CBC O & O-F stations still show increases in their viewing shares. However, the gains have been almost halved. Similar information is provided in Table 12. In this table we can see that viewing proportions on both off-air and CATV have risen for these stations. The last two columns in this table also confirm that the viewing proportions on cable are much lower than on off-air; that is, there has been a substantial substitution effect.

In Table 11, we find that the very low C/O ratios in the 30 city sample can be partly explained by adverse weighting effects. With the weighting factors removed, the C/O ratios reach the 68 and 67 per cent levels in 1968 and 1971 respectively, up from the 35 and 26 per cent figures. Still the CBC O & O-F major stations have been affected more seriously than the Canadian English language stations with the exception of the CBC affiliates. The CBC O & O-F minor stations have made some substantial gains on CATV (Tables 7 and 8). The improved reception of CBFT Montreal in eastern parts of Quebec is responsible for these gains. For example, in Sherbrooke the off-air viewing share of CBFT was 0.7 per cent in 1971, while the CATV viewing share was 14.1 per cent. Similarly in Trois Rivières the off-air and CATV viewing shares in 1971 were 1.6 and 19.1 per cent respectively.

Taking a look beneath these aggregate figures, we find that once more the cable viewing patterns in Montreal play an important role in explaining the cable off-air viewing share gaps, this time for the CBC O & O-F majors. Indeed, the combined negative substitution and weighting effects in Montreal accounted for about 80 per cent of the gap (4.9 percentage points out of 6.0 percentage points) in 1968 and in 1971 (7.8 percentage points out of 9.9 percentage points). The substitution effects alone, 43 and 30 per cent of the total differences in 1968 and 1971 comprised about 80 per cent of the total substitution effects for the major cities.

As mentioned before, the substitution effect in Montreal probably measures the combination of a "pure" substitution effect and a significantly different audience mix viewing via CATV than via off-air. Thus, it is conceivable that

if proper allowance is made for this possibility, the effect of CATV on viewing shares may be no worse than for the CBC O & O-E and CTV majors.

In Ottawa-Hull, where there were also strong substitution effects against the CBC O & O-F major, the substitution factor was not as large in absolute terms as it was for the two English-language stations (see Table C in Appendix).

2. Canadian Independent

The C/O values presented in Tables 2, 3 and 4 for the F-I stations (CFTM Montreal and CFCM Quebec), resemble the values for the CBC O & O-F stations. But, whereas the CBC O & O-F majors increased their viewing shares on both off-air and CATV between 1968 and 1971, the F-I major experienced an increase only in the off-air viewing share. Their CATV viewing share declined precipitously.

When the weighting effects were removed, the F-I stations recorded decreases in viewing shares on both media, with the CATV decrease remaining quite large, unlike the CBC O & O-F stations that still registered increases (Tables 10, 12).

The dissimilarities in the performance of these two station categories ends here. When we examine the C/O ratios for the F-I stations, we discover an almost exact replication of the findings for the CBC O & O-F majors. In Table 11, we see that an elimination of the weighting effect increases substantially the C/O ratios for the F-I stations and by roughly the same rate as for the CBC O & O-F majors. The C/O ratio of

the F-I stations after adjustment for the weighting effect still exceeds the values for the CBC-O & O-F majors (Table 11). And the revised C/O ratios are roughly the same magnitude as the CTV Class D majors. In Table 12, we can see that the relative sizes of the substitution effect (the CATV substitution effect ($VS_j^{oa} - VS^c_j$ as a proportion of the off-air viewing share VS_j^{oa}) are about the same for the F-I and CBC O & O-F stations.

Furthermore, as in the case of CBFT Montreal (a CBC O & O-F major) the combined substitution and weighting effects in Montreal for station CFTM, accounted for 94 and 77 per cent of the off-air cable viewing share gaps in 1968 and 1971 respectively. In 1968, the substitution effect was marginally greater than the weighting effect, while in 1971 the weighting effect was much more important (Table D). The substitution effect in Montreal (48 and 29 per cent of the overall gaps in 1968 and 1971) was larger than the overall substitution effect in 1968 and equalled 79 per cent of the overall value in 1971 (3.8 out of 4.8 percentage points). In 1971, the negative substitution effect in Quebec City accounted for the remainder. After considering the importance of the Montreal observation and the possible difference in the language mix for CATV and off-air viewers, we could surmise that the effects of CATV (ignoring the weighting shifts) were no more adverse for the F-I stations than they were for the CTV majors and possibly the CBC O & O-E Class D majors. Definitely the F-I stations performed no worse on CATV than did the CBC O & O-F majors contrary to the conclusion reached by the CBC Research Department (conclusion 6).

Finally, as in the case of the Montreal based CBC O & O-F station, CBFT, the Montreal based FI station, CFTM also made inroads on CATV into areas in eastern Quebec in which it was classified as a minor station. The gains were consistently made at the expense of CBC AFF-F majors in those areas.

3. CBC Affiliates

Similar to the English language CBC affiliates, an apparent inconsistency appeared in the C/O ratios presented in Tables 2, 3 and 4. In the first two tables, the C/O ratios were well below 100 per cent (ranging between 62 and 99 per cent) indicating the substantial viewing losses on CATV in comparison to the viewing shares on off-air. In Table 4, the C/O ratios exceeded 100 per cent (reaching a high of 244 per cent in 1968) suggesting that the CBC AFF-F stations benefited from cable.

Similar to the English-language CBC affiliates, this inconsistency can be explained away by the weighting factors. In Table 11, where the weighting effect for Trois Rivières is removed, the C/O ratio for the Class B major drops to 0 in 1968 and to 23 per cent in 1971. A glance at Table 12 substantiates the importance of the substitution effect. In both 1968 and 1971 the relative magnitudes of the substitution effect were comparable to the values for the CBC AFF-E, Class B majors and were only superseded in value by the CBC AFF-E, Class A and C majors.

Thus, as with the English language CBC affiliates, the French language affiliates were seriously affected by the introduction of additional channels on CATV. Unlike the CBC AFF-E majors, the CBC AFF-F majors lost

their audience to French language stations emanating from Montreal, not to U.S. stations. As a result, even though the CATV viewing shares were substantially lower than the off-air viewing shares after adjustment for different weighting patterns, for the French-language CBC affiliates, the shift that occurred on cable was between French-language stations and not between French and English stations.

TABLE 8

Distribution of Time Spent Watching Television by Category of Station, Cable Viewers, In Those Cities with a Population over 30,000 Where CATV Services are Available, Average Week, November 1968 and November 1971

Category of Station		Class A			Class B			Class C			Class D			Total		
English Language		1968	1971	%chg	1968	1971	%chg	1968	1971	%chg	1968	1971	%chg	1968	1971	%chg
CBC-owned	Major				5.4%	3.7%	-31.5%				9.1%	11.2%	23.1%	14.5%	14.9%	2.8%
	Minor				0.1	0.2					1.0	0.6		1.1	0.8	
CBC-affiliated	Major	1.3	0.8	-32.5	3.1	2.0	-35.5	0.0	0.6	-	1.0	0.6	-40.0	5.4	4.0	-25.9
	Minor				0.4	0.3					1.5	2.4		1.9	2.7	
CTV	Major				6.4	6.1	- 4.7				8.7	11.1	27.6	15.1	17.2	13.9
	Minor				0.7	0.7					1.6	1.5		2.3	2.2	
Can. Independent	Major										2.6	4.6	76.9	2.6	4.6	76.9
(incl. ETV)	Minor				0.3	0.3					0.0	0.4		0.3	0.7	
U.S. (incl. ETV)					14.9	12.1	-18.8				27.6	29.4	8.9	41.9	41.5	-1.0
French Language																
CBC-owned	Major				3.2	3.4	6.2							3.2	3.4	6.2
	Minor				1.0	0.7					0.3	0.2		1.3	0.9	
CBC-affiliated	Major				1.1	0.9	-18.2	0.7	0.4	-42.9				1.8	1.3	-27.8
	Minor				0.4	0.2								0.4	0.2	
Can. Independent	Major				7.1	4.5	-36.6							7.1	4.5	-36.6
	Minor				0.1	0.2					0.7	0.4		0.8	0.6	

Source: See Table 7.

TABLE 9

Cable Off-Air Ratios, 1968 and 1971

Category of Station		Class A		Class B		Class C		Class D		Total	
English Language		1968	1971	1968	1971	1968	1971	1968	1971	1968	1971
CBC-owned	Major			117%	79%			73%	114%	85%	103%
	Minor			50	50			500	67	275	62
CBC-affiliated	Major	325	267	115	59	0	75	333	300	126	85
	Minor			133	150			300	480	238	386
CTV	Major			70	60			65	90	67	76
	Minor			-	700			533	500	767	550
Can. Independent	Major			-	-			47	92	47	92
(incl. ETV)	Minor			-	-			0	400	300	700
U.S. (incl. ETV)				677	465			134	171	188	210
French Language											
CBC-owned	Major			35	26			-	-	35	26
	Minor			-	-			-	-	-	-
CBC-affiliated	Major			138	69	-	-			225	100
	Minor			400	67					400	67
Can. Independent	Major			46	27			-	-	-	-

Source: Values in table 8 divided by corresponding values in table 7.

TABLE 10

Revised growth rates for viewing shares [illegible] off-air viewers and cable viewers, selected categories of major stations - 1968-1971

Category of Station	Nature of Competition[1]	Off-air 1971[2]	Off-air % chg.[2]	Off-air 1971[3] revised	Off-air %chg[4]	Cable 1971[5]	Cable %chg[5]	Cable 1971[3] revised	Cable %chg[6]
English-language									
CBC-owned	B	4.7%	2.2%	4.4%	- 4.3%	3.7%	-31.5%	4.7%	-13.0%
	D	9.8	-21.0	11.4	- 8.1	11.2	23.1	8.2	- 9.9
	Total	14.5	-14.7	15.8	- 7.1	14.9	2.6	12.9	-11.0
CBC-affiliated	A	0.3	-25.0	0.4	0.0	0.8	-38.5	1.2	- 7.7
	B	3.4	25.9	3.0	11.1	2.0	-35.5	2.9	- 6.5
CTV	B	10.2	10.9	9.7	5.4	6.1	-4.7	7.4	15.6
	D	12.3	- 8.2	13.2	-1.5	11.1	27.6	8.1	- 6.9
	Total	22.5	- 0.4	22.9	1.3	17.2	13.9	15.5	2.6
Can. Independent (incl.-ETV)	D	5.0	- 9.1	5.3	-3.6	4.6	76.9	3.1	19.2
U.S. (incl ETV)	B	2.6	18.2	2.6	18.2	12.1	-18.8	13.4	-10.0
	D	17.2	-14.4	19.5	- 3.0	29.4	8.9	27.4	1.5
	Total	19.8	-11.2	22.1	- 0.9	41.5	- 1.0	40.8	- 2.6
French-language									
CBC-owned	B	13.3	44.6	11.4	23.9	3.4	6.2	3.3	3.1
CBC-affiliated	B	1.3	62.5	1.2	50.0	0.9	-18.2	1.1	0.0
Can. Independent	B	16.9	9.7	13.4	-13.0	4.5	-36.6	4.8	-32.4

Source:
1. See table 7
2. Table 7
3. See text page for discussion of revision for weight changes
4. 1971 revised values divided by corresponding values in table 7
5. Table 8
6. 1971 revised values divided by corresponding values in table 8

TABLE 11

Cable/Off-Air Ratios, Weighting Factor Removed for 12 Major Urban Centres, 1968 and 1971, Selected Categories of Major Stations

Category of Station	Nature of Competition	1968 Raw[1]	1968 Revised I[2]	1971 Raw[1]	1971 Revised I[2]	1971 Revised II[3]
English Language						
CBC-owned	B	117%	102%	79%	91%	98%
	D	73	88	114	85	88
	Total	85	92	103	87	91
CBC-affiliated	A	325	0	67	0	44
	B	115	15	59	35	61
	D	333	167	500	100	50
CTV	B	70	84	60	90	91
	D	65	82	90	65	70
	Total	67	83	76	76	78
Can. Independent (incl. ETV)	D	47	78	92	90	87
U.S. (incl. ETV)	B	677	641	465	519	487
	D	134	121	171	126	119
	Total	188	173	210	178	169
French-language						
CBC-owned	B	35	67	26	68	61
CBC-affiliated	B	138	0	69	23	43
Can. Independent	B	48	86	27	73	55

Source: 1. Table 9
2. See text, page
3. See text page

TABLE 12

Relative Magnitude of Subsitution Effect, Off-Air and Cable, 1968 to 1971; 1968 and 1971 Off-Air to Cable, Selected Categories of Major Stations

Category of Station	Nature of Competition	1968 - 1971		Off-Air-Cable	
		Off-Air[1]	Cable[2]	1968[3]	1971[4]
English Language					
CBC-owned	B	-2.2%	-3.7%	-4.3%	-6.4%
	D	-4.8	-6.6	-12.1	-14.3
	Total	-4.1	-5.5	-10.0	-11.7
CBC-affiliated	A	0	0	-175.0	-233.3
	B	7.4	0	- 81.5	-38.2
	D	0	0	-100.0	-100.0
CTV	B	1.1	18.8	-18.5	-10.8
	D	4.5	-2.3	-18.7	-30.9
	Total	3.1	6.6	-18.6	-21.8
Canadian Independent (incl. ETV)	D	-1.8	7.7	—12.7	-6.0
U.S. (incl. ETV)	B	9.1	-4.7	472.7	400.0
	D	-2.0	0.3	17.4	13.4
	Total	-0.9	-1.4	62.3	64.1
French Language					
CBC-owned	B	19.6	9.4	-34.8	-28.6
CBC-affiliated	B	0	0	-87.5	-38.5
Canadian Independent	B	-11.7	-3.0	-24.0	-28.4

TABLE 12 (cont'd)

1. $$\left[\sum_i \frac{\left({}_{1968}\omega_i^{OA} + {}_{1971}\omega_i^{OA}\right)}{2}\left({}_{1971}\theta_{ij}^{CA} - {}_{1968}\theta_{ij}^{OA}\right)\right] / {}_{1968}VS_j^{OA}$$

2. $$\left[\sum_i \frac{\left({}_{1968}\omega_i^{c} + {}_{1971}\omega_i^{c}\right)}{2}\left({}_{1971}\theta_{ij}^{c} - {}_{1968}\theta_{ij}^{c}\right)\right] / {}_{1968}VS_j^{c}$$

3. $$\left[\sum_i \frac{\left({}_{1971}\omega_i^{OA} + {}_{1971}\omega_i^{c}\right)}{2}\left({}_{1968}\theta_{ij}^{c} - {}_{1968}\theta_{ij}^{OA}\right)\right] / {}_{1968}VS_j^{OA}$$

4. $$\left[\sum_i \frac{\left({}_{1971}\omega_i^{OA} + {}_{1971}\omega_i^{cc}\right)}{2}\left({}_{1971}\theta_{ij}^{c} - {}_{1971}\theta_{ij}^{cA}\right)\right] / {}_{1971}VS_j^{OA}$$

Source: See table. D

TABLE 13

Ranking of Selected Categories of Stations in Descending Order of Substitution Effect on CO Ratio Exclusive of Weighting Factor

	1968[1]	1971[2]	1971[3]
1.	U.S. - class B	U.S. - class B	U.S. - class B
2.	U.S - class D	U.S. - class D	CBC -Aff - E - class D (minor)
3.	CBC O$^{\theta}$O-E - class B	E-I - class D	CTV - class D (minor
4.	CBC O$^{\theta}$O-E - class D	CBC O$^{\theta}$O - E - class B	U.S. - class D
5.	E - I - class D	CTV - class B	CBC O$^{\theta}$O -Eclass B (major)
6.	CTV - class B	CBC O$^{\theta}$O - E - class D	CTV - class B (major)
7.	CTV - class D	F-I - class B	CBC O $^{\theta}$O - E - class D (major)
8.	F-I - class B	CBC O$^{\theta}$O - F-class B	E-I - class D (major)
9.	CBC O$^{\theta}$O - F - class B	CTV - class D	CBC - Aff E- class C (major)
10.	CBC Aff - E - class B	CBC Aff- E - class B	CTV - class D (major)
11.	CBC Aff - F - class B	CBC Aff - F - class B	CBC - Aff - E - class B (major)
12.	CBC Aff- E - classD	CBC Aff - E - class D	CBC C $^{\theta}$O - F - class B (major)
13.	CBC Aff - E - class A	CBC Aff - E - class A	F-I - class B (major)
14.			CBC - Aff - E - class D (major)
15.			CBC Aff - E - class A (major)
16.			CBC Aff - F - class B (major)
17.			CBC Aff - F - class C (major)

Source: 1. Based on values in second last column in Table 12.

2. Based on values in last column in Table 12.

3. Based on values in Table D.

Concluding Remarks

In this concluding section, we attempt to focus on the six questions that formed the terms of reference of the study. The bulk of the study and the chronological summary of results consider the issues posed by these questions in one form or another. In the report, we attempted to pinpoint the underlying circumstances which explain why the CATV viewing erosion appeared heavier against CBC English language affiliates and CTV stations than against CBC owned and operated English language stations. To penetrate the aggregate shifts required a considerable dissaggregation of the data in order to quantify shifts in viewing habits due to 'pure' substitution.

Our analysis pointed toward the broad conclusion that simple generalizations gleaned from aggregate data can obscure important developments. With the benefit of hindsight, it appears that the market-by-market monitoring of viewing shares is the most appropriate manner for considering these issues. It follows as well that our findings must be regarded as tentative.

. . .

1. In major market areas (e.g. Toronto, Vancouver, Montreal), U.S. signals are available off-air. Has the audience share changed significantly as a result of the introduction of cable television?

Since all three major U.S. networks were servicing the Toronto

market adequately prior to the introduction of CATV, it is not surprising that the viewing impact of CATV has been marginal. In other cities in Southwestern Ontario where the U.S. stations were available off-air, the introduction of CATV has had a small over-all impact on viewing shares. In Vancouver there appeared to be only one U.S. station which was received adequately off-air; consequently, the introduction of additional U.S. stations through CATV resulted in some significant declines in the over-all viewing share of Canadian stations. In the case of Montreal, the reception of U.S. stations off-air was quite poor and consequently all the Canadian stations were classified as Class B. Therefore, it is not surprising that the viewing distribution on CATV differed significantly from off-air. Part of this difference could be reflecting differences in the French-English language composition of the audiences viewing via both media.

2. Has the expansion of CATV into French speaking areas had a significant impact on the amount of time spent watching French-language stations?

Here again, we found that aggregate analysis can lead to misleading conclusions. For example, at an aggregate level, we detected that there had been a substantial viewing shift from French-language stations to U.S. stations on CATV. However, when we examined the French-language cities in our sample, we discovered significant differences between Montreal and the other cities. In

the latter group of cities, the viewing shifts which occurred were among French language stations, with the French language CBC affiliates losing out to the French language CBC owned and operated and the Montreal independent stations. We would expect this trend to continue as CATV penetrates further into Quebec.

As for Montreal, the introduction of CATV has produced a substantial shift from French language to English language stations, particularly to U.S. stations. The shifts in Montreal account for most of the shifts in the aggregate levels. However, these shifts could be reflecting the predominance of English speaking viewers on CATV and French speaking viewers on off-air. Consequently, among Montreal Francophones it is still not possible to determine whether there have been significant shifts from French language to English language stations.

3. Impact might be isolated on a localized basis to determine the differing effects by <u>type of station</u> (CBC "O&O", CBC affiliate, CTV independent) and by <u>type of program</u> (network programs - Canadian content distinctive or Canadian content U.S. style; local programs).

Referring to table 13, we find that the Canadian stations can be ranked in terms of their increasing losses (from smallest losses to greatest losses) resulting from the introduction of additional channels through CATV as follows:

1. CBC owned and operated English
2. English independents
3. CTV
4. French independents
5. CBC owned and operated French
6. CBC affiliated English
7. CBC affiliated French

In table 13, we also classified the stations in terms of market structure prior to the introduction of CATV.

Referring now to table 12, we observed that the CBC owned and operated English stations and the English independents experienced a decline of about 10% in their viewing shares on CATV relative to their off-air viewing shares because of competition. For the other station categories, the substitution losses ranged from 20% (CTV stations) to about 30% (the French language CBC owned and operated) and to between 40% and 90% for the CBC affiliates in both languages.

4. Have CBC owned stations maintained their share of the viewing market better than CBC English TV affiliates, and if so, is this due to a distinctive program format of (a) network programs, and/or (b) local programs?

As pointed out in our response to the previous question, CBC owned and operated stations have maintained their shares better than CBC affiliates. We believe that there is a two stage process involved in these viewing shifts attributable to cable penetration.

The first stage is characterized by the monopoly erosion of the CBC affiliates. These stations generally do not face any U.S. competition off-air - the main off-air competitors are CTV stations. The introduction of U.S. networks through CATV breaks their monopoly or near monopoly positions in their market areas. CBC "O & O" English language stations were exposed to U.S. competition off-air; thus, they generally have suffered less under the impact of CATV.

The distinctive program format plays a key role in the second stage. As the CBC Report notes, local programming does provide a basis for resisting U.S. network intrusion. Although there are insufficient data available to adequately test for this effect, we believe that this factor is the key to explaining the narrow threshhold losses in Canadian TV viewing shares beyond the introduction of 2 new U.S. channels. At this point, we would underseore the necessity of some serious research into the reasons for the threshhold effects which we have identified. At a very minimum, a measure of program diversity should be developed.

5. Does the impact of CATV decrease over time, in major or isolated (rural) market areas?

In order to answer this question, the data had to be adjusted to exclude the weighting shifts which distorted the true underlying trends. (For example, if the rate of CATV penetration in a particular city exceeds the national average, and at the same time

viewing shares do not change in this city, at the national level the shift in CATV viewing weight for the city can result in viewing share changes).

Referring to table 10 which neutralizes these weighting shifts, we find that substantial changes occurred between 1968 & 1971 in cable viewing shares for the following category of stations: CBC-O &O - E Class B (-13%), CTV Class B (-15%), E-I (+19.2%), U.S. Class B (-10%), and F-I (-32.4%).

The data in tables 10 and 11 suggest that the initial viewing losses of CTV Class B stations to U.S. stations tend to be reduced over time. The initial inroads made by the Montreal French language independent station seems to have eroded over time. Otherwise, the impact of cable penetration does not appear significant.

If data for a longer time period were available, some of these conclusions could alter.

6. Does the impact of CATV upon audience shares for Canadian stations increase, decrease, or stabilize with the introduction of more U.S. channels (three or four, as opposed to an initial one or two - what is the cut-off point?)?

In our chronological summary, we stated that threshhold effects are important. That is, increasing the number of U.S. stations from 0 to 2 results in the largest viewing erosion on Canadian stations;

beyond that number, further erosions are marginal. Thus the critical cut-off point in terms of Canadian station audience share erosion appears to be 2 U.S. stations. As we pointed out in our response to question 4, there appears to be a two-stage process at work.

TABLE A

Distribution of Time Spent Viewing Different Categories Of Stations, By Off-Air Viewers Aggregated Over All Areas Where Cable TV Services Are Not Available

Average Week November 1971

Category of Station	
English - Language	
CBC - owned	17.1%
CBC affiliated	34.3
~~CTV~~ CTV	25.0
Canadian Independent	0.5
U.S. (incl. ETV)	9.5
	86.4
French - Language	
CBC - owned	1.9
CBC - affiliated	9.5
Canadian Independent	2.4
	13.8

Source: The ratios . were decreased as follows; $(.79 \times VS_j^{oA})$; table 3) + .21 x = VS_j^{oA}; table 2, where χ is the corresponding value listed on this table.

TABLE B

AMOUNT OF TIME SPENT WATCHING TELEVISION VIA CABLE TV EXPRESSED AS A PROPORTION OF TOTAL AMOUNT OF TIME SPENT WATCHING TELEVISION EITHER VIA CABLE OR DIRECTLY OFF-AIR IN THOSE 30 CITIES WITH POPULATIONS OVER 30,000 WHERE CABLE TV SERVICES ARE AVAILABLE

NOVEMBER 1968 AND NOVEMBER 1971

City	Population projected to November 71	November 1968	November 1971
		%	%
Belleville	35,200	29.5	73.4
Brampton	75,200	12.9	51.5
Brantford	67,000	35.2	49.6
Calgary	410,900	- 1	12.8
Chatham	34,700	25.1	41.0
Cornwall	48,600	65.4	62.4
Drummondville	44,600	23.6	29.5
Granby City	34,200	6.3	7.3
Guelph	61,000	48.5	71.4
Hamilton	507,100	16.9	40.0
Kitchener	229,500	37.7	60.9
Lethbridge	40,000	27.4	48.2
London	240,800	76.0	77.5
Montreal	2,614,000	13.4	20.4
Oshawa	119,800	11.8	31.8
Ottawa-Hull	576,000	43.8	67.3
Peterborough	59,800	57.3	75.7
Quebec City	460,200	6.1	13.3
St. Catharines	124,800	8.4	26.3
Sarnia	72,000	17.8	51.2
Sault Ste. Marie	80,900	22.0	37.4
Shawinigan	62,100	48.4	74.2
Sherbrooke	86,900	54.6	72.9
Thunder Bay	103,600	63.8	79.7
Toronto	2,552,000	7.6	39.9
Trois Rivieres	96,500	65.9	71.0
Valleyfield	34,400	.2	6.0
Vancouver	1,049,200	47.8	68.4
Victoria	195,500	61.9	82.4
Winnipeg	541,800	2.0	39.1

1. No cable TV

2. Information not available.

Source: Table 6 in see Table 1

TABLE C

Distribution of Time Spent Viewing Different Categories of Stations By Cable Viewers Off-Air Viewers, In Centres With a Population Under 30,000 where CATV Services are available.

Average Week November 1971

Category of Station	Off Air[1] Viewers	Cable[2] Viewers	Cable/Off-Air[3] Ratios
English language			
CBC - owned	11.6%	3.8%	33%
CBC - affiliated	23.0	21.2	92
CTV	28.2	15.0	53
Canadian Independent	0.5	5.0	1000
U. S.	6.8	11.9	175
French Language			
CBC - owned	5.5	7.5	136
CBC - affiliated	13.6	20.6	151
Canadian Independent	10.2	16.9	166

Source: (1) $.56\ (VS_j^{OA}$ - table 4) + $.44\ x = VS_j^{OA}$ - table 3, where x is the corresponding value in column 1 of this table

(2) $.84\ (VS_j^{C}$ - table 4) + $.16Y = VS_j^{C}$ - table 3, where y is the corresponding value in column 2 of this table.

(3) Column 2 ÷ column 1 times 100%

Table D

Measures of the Substitution Effect And Weighting Effect For Twelve Cities

		Substitution Effect (Percentage Points)	Weighting Effect (Percentage Points)
Calgary			
CBC Aff. - Class B	1968-71, OA[1]	0.2	0.3
	1968-71, C[2]	0.0	0.4
	1968, OA-C[3]	0.0	-2.0
	1971, OA-C[4]	-0.3	-1.7
CTV - Class B	1968-71, OA	-0.1	0.3
	1968-71, C	0.0	0.5
	1968, OA-C	0.0	-2.9
	1971, OA-C	-0.4	-2.3
U.S. - Class B	1968-71, C	0.0	0.2
	1971, OA-C	0.1	0.1
Kitchener			
CTV - Class D	1968-71, OA	0.0	-0.1
	1968-71, C	0.1	-0.1
	1968, OA-C	-0.4	0.5
	1971, OA-C	-0.4	0.6
U.S. - Class D	1968-71, OA	+0.1	0.0
	1968-71, C	0.0	-0.2
	1968, OA-C	+0.6	0.6
	1971, OA-C	0.3	0.7
Ind. - Class D	1968-71, OA	-0.1	0.0
	1968-71, C	-0.1	-0.1
	1968, OA-C	-0.3	0.4
	1971, OA-C	-0.2	0.3
London			
CBC Aff. - Class B	1968-71, OA	0.0	0.1
	1968-71, C	0.0	-1.3
	1968, OA-C	-2.2	4.7
	1971, OA-C	-1.3	2.5
CTV - Class B	1968-71, OA	0.0	0.0
	1968-71, C	0.3	-0.6
	1968, OA-C	-0.1	0.9
	1971, OA-C	0.0	0.5

U.S. - Class B	1968-71,OA	0.0	0.0
	1968-71, C	-0.5	-1.9
	1968, OA-C	2.2	2.1
	1971, OA-C	1.0	0.9

Montreal

CBC O+O - E - Class B	1968-71, OA	-0.1	0.7
	1968-71, C	-0.3	-0.5
	1968, OA-C	0.9	-1.5
	1971, OA-C	0.6	-2.6
CBC O+O - F - Class B	1968-71, OA	1.3	1.6
	1968-71, C	0.4	-0.4
	1968, OA-C	-2.6	-2.3
	1971, OA-C	-3,0	-4,8
CTV - Class B	1968-71, OA	0.2	0.6
	1968-71, C	0.4	-0.5
	1968, OA-C	-0.1	-1.8
	1971, OA-C	0.4	-3.6
U.S. - Class B	1968-71, OA	0.1	0.2
	1968-71, C	-0.1	-0.9
	1968, OA-C	5.4	-1.8
	1971, OA-C	5.4	-3.1
Ind.F - Class B	1968-71, OA	-1.5	2.4
	1968-71, C	-0.4	-0.4
	1968,OA-C	-4.0	-3.8
	1971, OA-C	-3.8	-6.1

Ottawa-Hull

CBC O+O - E - Class B	1968-71,OA	0.0	-0.4
	1968-71, C	0.1	-0.5
	1968, OA-C	-1.1	2.2
	1971, OA-C	-0.9	2.0
CBC O+O - F - Class B	1968-71, OA	0.1	-0.2
	1968-71, C	-0.1	-0.1
	1968, OA-C	-0.6	0.9
	1971, OA-C	-0.8	1.0
U.S. - Class B	1968-71, OA	-	-
	1968-71, C	-0.1	-0.5
	1968, OA-C	+1.9	0.9
	1971, OA-C	1.8	0.4

CTV - Class B	1968-71, OA	0.0	-0.4
	1968-71, C	0.5	-0.7
	1968, OA-C	-1.5	2.5
	1971, OA-C	-1.1	2.3
Quebec City			
CBC O+O - F - Class B	1968-71, OA	+0.4	0.5
	1968-71, C	0.0	0.6
	1968,OA-C	0.0	-1.6
	1971, OA-C	0.0	-1.9
U.S. - Class B	1968-71, OA	0.0	0.0
	1968-71, C	0.0	0.2
	1968, OA-C	0.0	0.0
	1971, OA-C	0.0	0.2
Ind - F - Class B	1968-71, OA	-0,3	0.7
	1968-71, C	0.0	0.6
	1968, OA-C	0.0	-3.2
	1971, OA-C	-1,3	-1.7
Thunder Bay			
CBC Aff - Class B	1968-71, OA	0.0	-0.1
	1968-71, C	0.0	-0.4
	1968, OA-C	-0.7	1.5
	1971, OA-C	-0.7	1.2
U.S. - Class B	1968-71, OA	0.0	0.0
	1968-71, C	0.0	-0.6
	1968, OA-C	0.9	0.8
	1971, OA-C	0.9	0.2
Toronto			
CBC O+O - Class D	1968-71, OA	-0.4	-0.8
	1968-71, C	-0.3	3.2
	1968, OA-C	-0.3	-4.3
	1971, OA-C	-0.3	-0.2
CTV - Class D	1968-71, OA	+0.8	-0.9
	1968-71, C	0.3	2.9
	1968, OA-C	-0.6	-3.9
	1971, OA-C	-1.1	-0.1

U.S. - Class D	1968-71, OA	-0.5	-1.6
	1968-71, C	-0.9	6.6
	1968, OA-C	0.9	-8.7
	1971, OA-C	0.3	-0.3
Ind. - Class D	1968-71, OA	0.0	-0.3
	1968-71, C	0.3	1.6
	1968, OA-C	-0.4	-2.1
	1971, OA-C	-0.1	-0.2

Trois Rivieres

CBC O+O - F (Min) Class B	1968-71,OA	0.0	0.0
	1968-71, C	0.1	-0.2
	1968, OA-C	0.2	0.2
	1971, OA-C	0.2	0.1
CBC Aff - F - Class B	1968-71, OA	0.0	0.1
	1968-71, C	0.0	-0.2
	1968, OA-C	-0.7	1.1
	1971, OA-C	-0.5	0.6
Ind - F - Class B	1968-71, OA	0.0	0.2
	1968-71, C	-0.1	-0.5
	1968, OA-C	0.3	0.8
	1971, OA-C	0.3	0.0

Vancouver

CBC O+O - Class D	1968-71, OA	-0.2	-0.4
	1968-71, C	-0.2	-1.2
	1968, OA-C	-1.0	+3.9
	1971, OA-C	-0.5	2.6
CTV - Class D	1968-71, OA	0.0	-0.4
	1968-71, C	-0.6	-1.1
	1968, OA-C	-1.5	3.9
	1971, OA-C	-1.6	2.7
U.S.-Class D	1968-71,OA	0.2	-0.5
	1968-71, C	1.0	-3.4
	1968, OA-C	2.5	7.4
	1971, OA-C	2.0	5.8

Victoria

CBC O+O - Class D	1968-71, OA	0.0	-0.1
	1968-71, C	-0.1	-0.3
	1968, OA-C	-0.2	0.9
	1971, OA-C	-0,1	0.7

CBC Aff - Class D	1968-71, OA	0.0	-0.1
	1968-71, C	0.0	-0.1
	1968, OA-C	-0.3	0.5
	1971, OA-C	-0.2	0.4
CTV (Min.) - Class D	1968-71, OA	0.0	-0.1
	1968-71, C	0.1	-0.2
	1968, OA-C	0.2	0.3
	1971, OA-C	0.1	0.4
U.S. - Class D	1968-71, OA	0.0	-0.2
	1968.71, C	0.1	-1.1
	1968,OA-C	0.4	2.5
	1971, OA-C	0.2	1.9

Winnipeg

CBC O+O - Class D	1968-71, OA	0.0	-0.3
	1968-71, C	0.0	1.3
	1968, OA-C	0.0	-2,3
	1971, OA-C	-0.5	-0.2
CTV - Class D	1968-71, OA	-0,2	-0.5
	1968-71, C	0.0	1.3
	1968, OA-C	0.0	-2.8
	1971, OA-C	-0.7	-0.1
U.S. - Class B	1968-71,OA	0.1	-0.2
	1968-71, C	0.0	2.2
	1968, OA-C	0.0	-1.2
	1971, OA-C	1.2	-0.1

APPENDIX B: NOTES ON THE SOURCES OF BROADCAST AND CABLE DATA

A. LOCALITY AND POTENTIAL AUDIENCE: GENERAL

1. Both Locality and Potential Audience are identical to CRTC specifications or identifications as used by the CRTC Financial Analysis Division in their "Confidential Appraisals" of the two Broadcast Networks.

2. Locality refers to the major urban market in question. Individual licence areas in multi-cable system markets are not independently identified. The Penetration Ratios, however, are based upon the total number of potential subscribers within each licence area (see C-6 below).

3. Potential Audience appears to report greater-metropolitan population statistics, rather than total household figures. The latter is, of course, a significantly smaller figure.

B. SOURCES AND CAVEATS RESPECTING T.V. BROADCAST DATA

1. The data have been taken directly from confidential CRTC reports - The Canadian Broadcasting Corporation Public Hearing (Feb. 18, 1974): A Financial Appraisal of the Corporation and Its Affiliate Stations; and, Notes Re: CTV and CRTC Meeting (June 10, 1974) - and should probably be treated accordingly. The fact that the CRTC drew their data from the unaggregated firm statistics reported to Statistics Canada reinforces the former suggestion.

2. Call Letters: as assigned by the CRTC.

3. Location: This refers to the city from which a signal originates. It is, then, not necessarily the same as "Locality".

4. Network Affiliation: CBC and CTV need no explanation, RC, of course, indicates Radio Canada. An "A" or an "O" following CBC or RC indicates that the station is either Affiliated with or Owned by the network in question. TVA is the new Quebec based network Télédiffusion Associés.

APPENDIX B (Cont'd)

B. SOURCES AND CAVEATS RESPECTING T.V. BROADCAST DATA

5. Share of Audience: CRTC used figures from B.B.M. Reports Nos. 5-19 (Nov. 1973) to compile this column. Columns may not add to 100% because of the existence, at the margin, of channels not widely available or viewed in the community -- such as, for example, the channels reserved to Cable system community programming.

6. Operating Revenue ($000): This figure has been rounded to the nearest thousand dollar amount. The data are for fiscal 1972 as reported in 1973 by individual firms to Statistics Canada. According to page 12 of the Annual Return Radio and Television Revenue includes: Local time sales; National time sales; "Network payments" to station; Syndication and production; and Other.

7. Net Income as a % of Revenue: In the Statistics Canada forms Net Income appears as "Operating Profit". It is equal to Total Revenue minus Total Expense. Total Expense is the sum of: program, technical, sales and promotion, administrative and general costs. (Annual Return, p. 12). Again the data are for fiscal 1972.

8. Pretax Profit as % of Revenue: Once again the data are for fiscal 1972. "Pretax Profit", as defined by Statistics Canada, is Net Income (Operating Profit) less depreciation, interest and "other adjustments". (Annual Return, p. 12).

9. For the London and Windsor T.V. Broadcast market profiles the figures reported in the last three columns after the Erie and Detroit stations are aggregate figures for all the stations originating from those two cities.

APPENDIX B (Cont'd)

C. SOURCES AND CAVEATS RESPECTING CABLE SYSTEM DATA

1. Again the direct, though secondary, sources of this information are CRTC studies and reports. Again the CRTC work is largely based upon the 1973 Annual Return Cable Television collected by Statistics Canada. As the figures are drawn from, and report unaggregated, individual firm statistics they are confidential, being protected under the authority of the Statistics Act (RSC 1972, C-15).

2. Company Name and Channel Capacity:

(a) Company Name: These are simply those of the incorporated bodies which own and operate the cable systems. The companies may well be subsidiaries of other companies. They are not necessarily incorporated in the jurisdiction in which they operate. (National Cablevision, for example, operates extensively in the Montreal area, but is incorporated in British Columbia).

(b) Channel Capacity: This is indicated in brackets after the Company name. It indicates the T.V. channel delivery potential of the system. Most systems have a twelve channel capacity although twenty or more channel capacities are becomming more common. Although these two norms (12 and 20) may be useful as a guide to the capacities of firms for which the information is not available, it should be noted that in multi-system firms the capacity given may be misleading. The reason is twofold. Capacity may refer to the total delivery potential of the several systems operated by the firm. Further, capacity may be reported for merely one system operated by the firm and then imputed to its remaining systems. Capacity data do not appear in the Annual Return and hence must be in-house CRTC information.

3. CRTC Cable Codes: These codes are assigned to the companies by the CRTC. They indicate the city of operation by letters (OTT and OTW represent Ottawa) and the province and provincial region by figures. The figures are assigned from east to west--the first digit designates the province (0 is Newfoundland, 9 is British Columbia), the second and third digits describe the intraprovincial region (sometimes this is a county), (thus in 506 and 558, 06 and 58 describe areas of eastern and western Ontario respectively). Consider AJX 518 as an example: AJX is Ajax, 5 indicates Ontario, while 18 describes a central Ontario area.

APPENDIX B (Cont'd)

C. SOURCES AND CAVEATS RESPECTING CABLE SYSTEM DATA (con't)

4. Age of System: This age statistic reflects corporate life and not operating life. Although corporate life is often a good surrogate for operating life, the two are not necessarily the same. Treeford Limited (THS 464), for example, is shown as being 47 years old. Clearly it cannot have operated a Cable T.V. system for anymore than twenty odd years. Nonetheless the statistic is useful in that it oftens explains the large losses reported by the Cable system firms. In the first three or four years of operation firms are expected and expect to lose money.

5. Subscribers at year end: These are presented as absolute numbers. In multi-system markets the number of subscribers at year end (Dec 1972) has been used to rank the firms. Subscribers were chosen over Penetration Ratios (see C-6) as the ranking device since it is more closely analogous to T.V. Broadcaster's Share of Audience.

6. Penetration Ratio: This percentage compares the number of subscribers a system had at year end (Dec. 1972) to the total number of households (not population) within the licence area. Care should be taken in using this ratio for the purposes of comparison with other studies since some of these studies have defined penetration as subscribers to households "passed" (i.e. where plant has been installed) within the licence area. The total number of household ratio appears to give a clearer picture of the potential a system has for growth.

7. Operating Revenue ($000): Appearing as Total Revenue this figure comes directly from Statistics Canada's Annual Return Cable Television (page 12) and reports fiscal 1972 results. Cable revenue includes: individual subscribers; apartment subscribers; hotels, hospitals, etc.; and, other Cable operations. The numbers have been rounded to the nearest thousand dollar amount and should be comparable to B-6 above.

8. Net Income as a % of Revenue: Once again Net Income appears in Statistics Canada forms as "operating profit". It is equal to total Revenue minus total Expenses. Cable expenses include: program origination; technical; sales; and, administrative and general. The ratio applies to fiscal 1972.

9. Pretax Profit as % of Revenue: Pretax Profit is the result of taking depreciation, interest expense and "expense adjustments" from Net Income (Operating Profit) as reported on the Statistics Canada Annual Return for fiscal 1972.

APPENDIX B (Cont'd)

C. SOURCES AND CAVEATS RESPECTING CABLE SYSTEM DATA (cont'd)

10. Asterisk: The presence of an asterisk before the Company Name indicates that the Net Income (Operating Profit) figure had to be directly calculated (Total Revenue less Total Expense) from the Annual Return. This was necessary because several of the reporting firms failed to fully complete their returns.

LOCALITY: Montreal, Que. POTENTIAL AUDIENCE: 2,701,030

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFTM-TV	Montreal	TVA	36%	14,545	21.5%	22.4%
CBFT	Montreal	RC-O	27	3,282	-	-
CFCF-TV	Montreal	CTV	15	9,345	28.1	21.4
CBMT	Montreal	CBC-O	11	1,704	-	-
WCAX-TV	Burlington	CBS	4	-	-	-
WPTZ-TV	Plattsburg	ABC/NBC	3	-	-	-
WMTW-TV	Poland Spring	ABC	2	-	-	-

	CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
*	National Cablevision (12)	MTN-465	11	81,007	19.8	4,456	57.0	13.3
	Cable T.V. Ltd. (12)	MTC-465	17	61,103	33.3	2,942	47.4**	n.a.
	National Cablevision (12)	MTG-469	8	5,901	25.2	302	53.6	6.3
	Videotron Ltee. (12)	MCM-457	6	3,929	36.3	208	13.5	(40.4)
	National Cablevision	LVL-464	8	3,769	17.8	218	59.2	17.9
	Cable T.V. Ltd. (na)	VLV-464	8	3,120	26.3	173	47.4**	n.a.
	Videotron Ltee.	MLR-476	8	1,522	83.4	80	47.5	18.8
	Treeford Ltd. (12)	THS-464	47	1,250	10.0	50	(72.0)	(188.0)
	National Cablevision (na)	MTE-465	8	612	27.3	37	62.2	21.6
	Tele-Cable, Boucherville (na)	BCV-456	n.a.	n.a.	n.a.	58	n.a.	n.a.

** Consolidated figure for both systems

LOCALITY: TORONTO, Ont.

POTENTIAL AUDIENCE: 2,644,640

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFTO-TV	Toronto	CTV	23%	17,942	26.3%	23.9%
CBLT	Toronto	CBC-O	20	5,241	-	-
WKBW-TV	Buffalo	ABC	14	-	-	-
CHCH-TV	Tor.- Ham.	IND	12	10,704	32.2	27.7
WBEN-TV	Buffalo	CBS	11	-	-	-
WGR-TV	Buffalo	NBC	10	-	-	-
CITY-TV	Toronto	IND	4	-	-	-
CKVR-TV	Barrie	CBC-A	2	1,710	30.1	23.6

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Metro Cable (12)	TOM-519	7	56,043	40.2%	2,600	n.a.	n.a.
*York Cablevision((12)	TOY-519	6	44,201	56.2	2,235	52.5	19.6
*Rogers Cable T.V. Ltd. (20)	TOR-519	5	43,543	39.7	2,091	51.5	(3.0)
Coaxial Colourview Ltd. (20)	TOC-519	5	28,571	42.0	1,464	52.3	11.2
*MacLean Hunter (12)	TOH-519	5	26,822	37.4	1,502	35.6	n.a.
Keeble Cable (21)	TOK-519	3	10,154	27.0	410	(38.3)	(104.4)
Graham Cable T.V. Ltd. (32)	TOD-519	6	9,129	30.4	369	(24.9)	(88.9)
Cable Utility Communications Ltd. (21) (Scarboro)	TOS-519	3	9,003	22.5	350	(47.7)	(145.7)
Willowdowns Cablevision (12)	TOW-519	5	2,974	43.1	158	32.3	12.7
Wired City Communications (na)	TOL-519	n.a.	432	1.8	17	n.a.	n.a.

LOCALITY: TORONTO, Ont. POTENTIAL AUDIENCE: 2,644,640

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFTO-TV	Toronto	CTV	23%	17,942	26.3%	23.9%
CBLT	Toronto	CBC-O	20	5,241	-	-
WKBW-TV	Buffalo	ABC	14	-	-	-
CHCH-TV	Tor.- Ham.	IND	12	10,704	32.2	27.7
WBEN-TV	Buffalo	CBS	11	-	-	-
WGR-TV	Buffalo	NBC	10	-	-	-
CITY-TV	Toronto	IND	4	-	-	-
CKVR-TV	Barrie	CBC-A	2	1,710	30.1	23.6

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Metro Cable (12)	TOM-519	7	56,043	40.2%	2,600	n.a.	n.a.
*York Cablevision((12)	TOY-519	6	44,201	56.2	2,235	52.5	19.6
*Rogers Cable T.V. Ltd. (20)	TOR-519	5	43,543	39.7	2,091	51.5	(3.0)
Coaxial Colourview Ltd. (20)	TOC-519	5	28,571	42.0	1,464	52.3	11.2
*MacLean Hunter (12)	TOH-519	5	26,822	37.4	1,502	35.6	n.a.
Keeble Cable (21)	TOK-519	3	10,154	27.0	410	(38.3)	(104.4)
Graham Cable T.V. Ltd.(32)	TOD-519	6	9,129	30.4	369	(24.9)	(88.9)
Cable Utility Communications Ltd. (21) (Scarboro)	TOS-519	3	9,003	22.5	350	(47.7)	(145.7)
Willowdowns Cablevision (12)	TOW-519	5	2,974	43.1	158	32.3	12.7
Wired City Communications (na)	TOL-519	n.a.	432	1.8	17	n.a.	n.a.

LOCALITY: VANCOUVER, B.C.

POTENTIAL AUDIENCE: 1,099,270

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CBUT	Vancouver	CBO-O	23%	2,684	-	-
KVOS-TV	Bellingham	CBS	23	-	-	-
CHAN-TV	Vancouver	CTV	20	4,598	31.1%	18.3%
KOMO-TV	Seattle	ABC	12	-	-	-
KING-TV	Seattle	NBC	9	-	-	-
KIRO-TV	Seattle	CBS	8	-	-	-
CHEK-TV	Victoria	CBC-A	3	1,193	54.3	47.8

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Canadian Wirevision (12)	VNR-915	9	152,768	77.9%	6,492	62.7%	41.0%
Coquitlam Cablevision (12)	CQM-915	5	32,700	99.1	1,078	61.0	36.7
Northwest Community Video (12)	VNW-915	10	24,003	97.5	970	51.6	18.5
Fraser Valley Cablevision (12)	SRY-915	7	22,200	90.6	665	52.3	23.4
Express Cable (12)	VNM-915	11	17,500	95.6	684	59.1	41.0
Western Cablevision (12)	VNS-915	9	14,200	97.9	495	66.0	49.9
Delta Cable T.V. (12)	FRV-915	7	10,483	69.4	597	51.6	48.1
White Rock Cablevision (12)	WRK-915	8	8,038	93.1	221	57.9	30.4
M.S.A. Cablevision (20)	ABF-911	6	7,500	96.2	182	59.1	27.8
West Coast Cablevision (20)	BRN-915	10	6,860	96.6	264	27.3	13.6

LOCALITY: OTTAWA, Ont. POTENTIAL AUDIENCE: 603,860

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CJOH-TV	Ottawa	CTV	29%	$ 4,795	19.7%	12.7%
CBOT	Ottawa	CBC-O	26	1,496	-	-
WWNY-TV	Watertown	ABC	16	[illegible]	[illegible]	[illegible]
CBOFT	Ottawa	RC-O	17	576	-	-
WPTZ-TV	Plattsburg	NBC	5	-	-	-
[illegible]	[illegible]	CBS	8	-	-	-
[illegible]	Victoria	CBC A	3	1,193	54.3	47.8

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
*Ottawa Cablevision (12)	OTT-506	11	51,740	73.9	2,152	58.5	37.2
Skyline Cablevision (10)	OTW-506	6	45,322	58.8	1,913	45.8	-23.1
Laurentian Cablevision (12)	HLL-478 TRN-478	8	12,378	75.6	627	58.4	9.9
[illegible] Cablevision (12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Videotron Ltee (12)	GAT-479	6	4,961	57.3	277	39.4	8.3
Bushnell Communications Ltd. (na)	RKL-503	n.a.	43	5.1	1	(128.3)	(900)
[illegible] Cablevision (12)	[illegible]	[illegible]	14,200	97.9	495	66.0	49.9
[illegible] Cable T.V. (12)	FRV-[illegible]	7	10,483	69.4	597	51.6	48.1
[illegible] Rock Cablevision (12)	MRK-[illegible]	8	8,938	93.1	221	57.9	30.4
[illegible] Cablevision (20)	ARK-[illegible]	6	[illegible]	96.2	182	59.1	27.8
[illegible] (20)	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCALITY: WINNIPEG, Man. POTENTIAL AUDIENCE: 532,690

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CBWT	Winnipeg	CBC-O	34%	$ 1,801	-	-
CKY-TV	Winnipeg	CTV	33	3,078	31.5%	22.9%
KCND-TV	Pembina	ABC	22	-	-	-
WDAZ-TV	Devils Lake	NBC	4	-	-	-
KXJB-TV	Valley City	CBS	3	-	-	-
KTHI-TV	Fargo	ABC	3	-	-	-
CBWFT	Winnipeg	RC-O	1	1	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
* Winnipeg Videon (20)	WNW-620	10	40,717	34.8%	$ 2,081	60.4%	13.4%
Winnipeg Cablevision (12)	WNG-620	5	20,365	46.2	989	45.9	1.7

LOCALITY: EDMONTON, Alta. POTENTIAL AUDIENCE: 495,360

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFRN-TV	Edmonton	CTV	56%	$ 4,442	37.6%	35.0%
CBXT	Edmonton	CBC-O	35	1,360	-	-
KXLY-TV	Spokane	CBS	7	-	-	-
CBXFT	Edmonton	RC-O	1	43	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Capital Cable T.V. Ltd. (27)	EDT-811	2	10,490	16.1	363	3.9%	(91.9)%
QCTV (na)	EDM-811	n.a.	2,501	3.2	150	(62.7)	(132.0)

LOCALITY: QUEBEC, Que. POTENTIAL AUDIENCE: 475,470

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CBVT	Quebec	RC-O	43%	$ 1,054	- %	- %
CFCM-TV	Quebec	TVA	49	5,715	42.2	39.0
CKMI-TV	Ste Foy	CBC-A	4	222	(35.2)	(44.7)
CFTM-TV	Montreal	TVA	2	14,545	21.5	22.4

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Tele-Cable, Que. Ltd. (12)	QUE-420	12	23,504	50.8%	1,202	52.3%	21.9
Phillipe Chapot (na)	LED-420	n.a.	365	n.a.	4	4.8	4.8

LOCALITY: CALGARY, Alta. POTENTIAL AUDIENCE: 406,810

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFCN-TV	Calgary	CTV	46%	$ 3,902	33.1%	29.1%
CFAC-TV	Calgary	CBC-A	39	2,070	19.6	15.8
KXLY-TV	Spokane	CBS	13	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Calgary Cable T.V. Ltd. (20)	CLG-806	2	13,349	20.1%	$ 438	(106.4)%	(216.9)%
Community Antenna Television Ltd.(20)	CLR-806	2	11,996	20.4	562	24.3	(43.4)

LOCALITY: LONDON, Ont. POTENTIAL AUDIENCE: 285,930

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFPL-TV	London	CBC-A	40%	$ 4,057	32.5%	26.0%
CKCO-TV	Kitchener	CTV	15	3,233	27.3	21.8
CHCH-TV	Hamilton	IND.	7	10,704	32.2	27.7
WSEE-TV	Erie	CBS	8			-
WICU-TV	Erie	NBC	9	3,212	6.8	-
WJET-TV	Erie	ABC	6			-
WKYC-TV	Cleveland	NBC	5	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
*London Cablevision (12)	LDN-539	21	45,208	87.8%	$ 2,066	58.8%	45.3%
MacLean Hunter Cable T.V. Ltd. (12)	LDL-539	11	20,495	74.5	999	61.8	44.6

LOCALITY: WINDSOR, Ont. POTENTIAL AUDIENCE: 256,310

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CKLW-TV	Windsor	CBC-A	20%	$ 3,400	(21.4)%	(39.9)%
WWJ-TV	Detroit	NBC	24	–	–	–
WJBK-TV	Detroit	CBS	20	–	–	–
WXYZ-TV	Detroit	ABC	20	47,366	35.5	–
WKBD-TV	Detroit	IND.	13	–	–	–
WTVS-TV	Detroit	IND.	1	–	–	–

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCALITY: HALIFAX, N.S. POTENTIAL AUDIENCE: 218,970

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CJCH-TV	Halifax	CTV	57.5%	$ 1,935	31.0%	21.0%
CBHT	Halifax	CBC-O	40.0	953	-	-
WEMT-TV	Bangor	ABC	1.4	-	-	-
WLBZ-TV	Bangor	NBC	0.2	-	-	-
CBHFT	Halifax	RC-O	0.1	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Dartmouth Cable T.V. Ltd. (na)	DRT-209	n.a.	2,081	11.0%	72	(175.0)	(330.6)
Halifax Cablevision (na)	HFX-209	3	1,873	5.3	79	(167.5)	(353.1)

LOCALITY: VICTORIA, B.C. POTENTIAL AUDIENCE: 198,020

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CBUT	Vancouver	CBC-O	17%	$ 2,684	-	-
KVOS-TV	Bellingham	CBS	16	-	-	-
KOMO-TV	Seattle	ABC	15	-	-	-
CKEK-TV	Victoria	CBC-A	11 0.2	1,193	54.3%	47.8%
CHAN-TV	Vancouver	CTV	11 0.1	4,598	31.1	18.3
KING-TV	Seattle	NBC	10	-	-	-
KIRO-TV	Seattle	CBS	9	-	-	-
KTNT-TV	Tacoma	IND	6	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
*Victoria Cablevision (12)	SAE-917	13	50,519	88.1%	$ 2,080	57.5%	40.3%

LOCALITY: THUNDER BAY, Ont.

POTENTIAL AUDIENCE: 141,200

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CKPR-TV	Thunder Bay	CBC-A	47%	$ 829	23.8%	16.0%
WDSM-TV	Superior	NBC	15	-	-	-
CHFD-TV	Thunder Bay	CTV	14	-	-	-
KDAL-TV	Duluth	CBS	11	-	-	-
CBLAT	Geraldton	CBC-O	8	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
MacLean Hunter Cable T.V. Ltd. (12)	TDB-558	13	20,605	71.3%	$ 1,344	61.7%	50.4%

LOCALITY: REGINA, Sask.

POTENTIAL AUDIENCE: 137,710

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CKCK-TV	Regina	CTV	68%	$ 1,769	21.8%	2.0 %
CBKRT	Regina	CBC-O	32	428	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CABLEVISION NOT AVAILABLE							

LOCALITY: ST. JOHN'S, Nfld.

POTENTIAL AUDIENCE: 131,540

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CJON-TV	St. John's	CTV	63%	$ 1,394	32.8%	20.6%
CBNT	St. John's	CBC-O	37	530	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Thistle, Sidney Neal (na)	BUT-008	n.a.	(290)	(60.4%)?	18, 0?-	42.4%	26.5%

LOCALITY: SASKATOON, Sask. POTENTIAL AUDIENCE: 125,750

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CFOC-TV	Saskatoon	CTV	59%	$ 1,562	24.1%	13.1%
CBKST	Saskatoon	CBC-O	40	386	-	-
CKBI-TV	Prince Albert	CBC-A	1	603	24.2	29.5

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CABLE NOT AVAILABLE							

LOCALITY: TROIS RIVIÈRES, Que. POTENTIAL AUDIENCE: 95,200

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CKTM-TV	Trois Rivières	RC-A	38%	$ 1,213	15.1%	5.3%
CFTM-TV	Montreal	TVA	27%	14,545	21.5	22.4
CHLT-TV	Sherbrooke	RC-A	11	2,660	21.6	5.5
CBFT	Montreal	RC-O	11	3,282	-	-
CBMT	Montreal	CBC-O	4	1,704	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
La Belle Vision (na)	TRU-443	n.a.	12,993	81.2%	164	58.3%	(11.6)%

LOCALITY: PEMBROKE, Ont. POTENTIAL AUDIENCE: 88,630

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CJOH-TV	Ottawa	CTV	39%	$ 4,795	19.7%	12.7%
CBOT	Ottawa	CBC-O	32	1,496	—	-
CHOV-TV	Pembroke	CBC-A	27	278	6.1	(25.6)

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Pembroke Cablevision (na)	PMB-547	n.a.	2,841	46.2%	138	52.9%	35.5%

LOCALITY: RED DEER, City, Alta. POTENTIAL AUDIENCE: 83,300

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CKRD-TV	Red Deer	CBC-A	53 %	$ 528	5.0	(6.6)%
CFRN-TV	Edmonton	CTV	21	4,442	37.6	35.0
CFAC-TV	Calgary	CBC-A	10	2,070	19.6	15.8
CFCN-TV	Calgary	CTV	9	3,902	33.1	29.1
CBXT	Edmonton	CBC-O	7	1,360	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Community Video Red Deer Ltd. (12)	RDD-808	11	5,635	68.9%	$ 312	55.1%	35.6%

LOCALITY: PETERBOROUGH, Ont.

POTENTIAL AUDIENCE: 62,970

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CHEX-TV	Peterborough	CBC-A	38%	$ 1,009	35.1%	26.7%
WKBW-TV	Buffalo	ABC	15	-	-	-
WROC-TV	Rochester	NBC	14	-	-	-
CFTO-TV	Toronto	CTV	13	17,942	26.3	23.9
WHEC-TV	Rochester	CBS	10	-	-	-
CKUR-TV	Barrie	CBC-A	4	1,710	30.1	23.6

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Peterborough Cable T.V. (12)	PTB-515	17	14,806	82.4%	$ 771	65.3%	60.7%

LOCALITY: CHARLOTTETOWN (Queens) P.E.I. POTENTIAL AUDIENCE: 50,710

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CBCT	Charlottetown	CBC-O	80%	$ 351	-	-
CKCW-TV	Moncton	CTV	15	1,302	19.5%	47.0%
CJCB-TV	Sydney	CBC-A	3	1,178	29.6	25.4
CHSK-TV	Saint John	CBC-A	2	1,422	25.5	(0.2)

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CABLE NOT AVAILABLE							

LOCALITY: NORTH BAY, Ont. POTENTIAL AUDIENCE: 48,540

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CKNY-TV	North Bay	CTV	49%	$ 359	0.8%	(13.9)%
CHNB-TV	North Bay	CBC-A	38	153	69.1	54.6
CKSO-TV	Sudbury	CTV	6	1,472	(1.8)	(16.6)
CKCO-TV	Kitchener	CTV	2	3,233	27.3	21.8

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
MacLean Hunter Cable T.V. Ltd. (12)	NBY-548	4	3,517	22.5	255	43.1%	9.0%

LOCALITY: LETHBRIDGE, City, Alta.

POTENTIAL AUDIENCE: 40,520

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CJOC-TV	Lethbridge	CBC-A	47%	$ 418	4.0 %	(3.9) %
CFCN-TV	Calgary	CTV	31	3,902	33.1	29.1
KRTV-TV	Great Falls	NBC/CBS	11	-	-	-
KFBB-TV	Great Falls	ABC/CBS	10	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Cablevision, Lethbridge Ltd. (12)	LBG-802	9	5,848	51.0%	$ 289	46.4%	20.1%

LOCALITY: KELOWNA, B.C. POTENTIAL AUDIENCE: 39,740

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CHAN-TV	Vancouver	CTV	36%	$ 4,598	31.1%	18.3%
CHBC-TV	B.C. Inter T.V.	CBC-A	35	1,505	26.2	17.9
KREM-TV	Spokane Falls	ABC/CBS	11	-	-	-
KXLY-TV	Spokane Falls	CBS/CBS	9	-	-	-
KHQ-TV	Spokane	NBC	9	-	-	-

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Black Knight T.V. (12)	KLW-935	16	6,190	61.9%	321	44.9%	31.9%
Cable Vision, Lethbridge Ltd. (12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCALITY: MEDICINE HAT, Alta.

POTENTIAL AUDIENCE: 38,080

CALL LETTERS	LOCATION	NETWORK AFFILIATION	SHARE OF AUDIENCE	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
CHAT-TV	Medicine Hat	CBC-A	48%	$ 338	(3.0)%	1.3%
KRTV-TV	Great Falls	NBC/CBC	16	-	-	-
KFBB-TV	Great Falls	ABC/CBS	16	-	-	-
CFCN-TV	Calgary	CTV	12	3,902	33.1	29.1
CJOC-TV	Lethbridge	CBC-A	8	418	4.0	(3.9)

CABLE COMPANY AND CHANNEL CAPACITY	CRTC CABLE CODE	AGE OF SYSTEM	SUBSCRIBERS AT YEAR END	PENETRATION RATIO	OPERATING REVENUE ($000)	NET INCOME AS % of REVENUE	PRETAX PROFIT AS % of REVENUE
Cablevision Medicine Hat Ltd. (12)	MHT-801	9	6,635	72.1%	$ 338	35.1%	13.5%

APPENDIX C - FORTHCOMING