GOING BACK TO SOURCE: AN ATTEMPT TO TRACE THE DIFFERENCES IN FINDINGS TO DIFFERENT METHODOLOGIES OF NRS AND IRS

Praveen Tripathi, Chaitra Leo Burnett

I. Purpose of the study

India is one of the few countries, which has two parallel readership surveys. The two studies are aimed at broadly similar universe and they cover roughly the same set of publications. This unusual condition presents us an opportunity to examine key differences in the two survey findings and then trace them back to methodology differences, which could have caused these.

The two surveys are: the National Readership Survey (NRS), commissioned by the National Readership Studies Council (NRSC) and the Indian Readership Survey (IRS) commissioned by the Media Research User's Council (MRUC).

The two surveys have somewhat different universes: NRS covers all 15years + population largely in urban India, while IRS covers a larger universe i.e. 12 years + and both urban and rural India *. However unweighted sample for the common universe i.e. *15 years + from urban India* is large enough (1,30,971 for NRS and 1,24,781for IRS) to permit a reliable comparison.

This paper would first isolate the major differences in the findings of these two studies. Since all estimates will be prone to sampling error, we need to discount this. We propose to do this by estimating the significance level of differences, and focusing only on those differences that are very significant.

We would also enumerate all major differences in methodologies of the two studies.

We would then try to link back key differences in the findings to these methodology differences and examine which and how much of the findings differences can be explained by specific methodology differences.

II. Introduction to NRS & IRS

II.1 NRS

NRS defines its universe as the resident urban population of India aged 15 years and above.

The study covered all of urban India, excluding J&K due to law and order situation posing problems for satisfactory conduct of fieldwork, and the offshore territories of Lakshwadeep and Andaman & Nicobar islands. In addition it covered rural Kerala. The All India sample size was 135,430 of which the urban sample was 131,568 spread across 504 towns. The urban sample included a SEC A1 booster of 9,696 interviews in the top 23 metros.

The survey used a multi-stage stratified random sampling procedure. The socio-cultural regions (SCRs) constituted the primary stratum. SCRs are essentially geographic units comprising states and districts that display linguistic homogeneity, geographical contiguity, financial, economic and administrative homogeneity and regionalization of culture and lifestyles, making each one a unique socio-cultural entity. Within each stratum towns were selected as follows:

-   all 200,000 + population towns were included
-   all publication centers for dailies that were covered by the survey.
-   a predetermined number of below 200,000 + population towns were selected using the PPS method

---

* See Annexure II for detailed comparison of NRS and IRS universes
.

II.2 IRS

IRS defines its universe as the resident urban and rural population of India aged 12 years and above. The study went to all urban areas covered by the NRS excluding the North Eastern states.

IRS is a continuous survey. Fieldwork is conducted in two rounds every year (January - May and July – November) and the samples are matched across the two rounds.

The All India sample size for round 1 & 2 was 190,594 individuals of which the urban sample covered was 134,660, spread across 741 towns. The urban sample included a SEC booster of 10,500 interviews in the top 23 towns.
The method of town selection was as follows:

- all 100,000 + population towns (296 of them) were selected
- a predetermined number of below 100,000 + population towns were selected by using the probability proportional to population size method (PPS)
- all publication centers of dailies covered by the survey were purposively included.

The survey used a multi-stage stratified random sampling procedure. The primary stratum comprised of 17 states. The socio-cultural regions (SCRs) constituted the secondary stratum.

III. Scope of the paper

Given the fact that the two studies have different universes, all comparisons would have to be confined to the common universe i.e.

- individuals aged 15+ years

- from urban India excluding the North-Eastern states

However, even this common universe comprises of 23 metropolitan cities and 17 states. For both NRS and IRS, each state and metro has been treated as a universe in itself and all findings have been projected to respective state universes. Undertaking a comparison on each of these units will be unmanageable. We therefore decided to look at a subset of these 40 panels that would adequately reflect the diversity of different panels.

We do know that metropolitan cities do differ from other urban locations in terms of their demographic character, access to different mass media and difficulty in accessing households for survey research. We therefore decided to include both state panels and metro panels. In order to ensure geographical diversity, we chose to look at one large state and one large metro from each of the four zones of the country.

	North	**East**	**West**	**South**
Metro	Delhi	Calcutta	Bombay	Madras
State	Uttar Pradesh (UP)	West Bengal (WB)	Maharashtra & Goa (MG)	Andra Pradesh (AP)

The sample size and the size of the common universe (15+ urban population), for each of these 8 panels has been given in Annexure I.

IV. Method of analysis

Both the studies weighted the data by Sex x Age. The Sex x Age weights were derived by projecting the 1991 Census population to the fieldwork period in both the studies.

For the purpose of comparison, we have considered only the projected figures (in 000s), since these would have corrected for respective Sex x Age distortions in the unweighted sample of the two studies. Any differences, even at projected figures ('000s) are differences that have persisted beyond Sex x Age corrections and by looking at only projected figures (as opposed to unweighted sample) we are focussing on these differences.

While the differences in readership and general media behavior are the most critical ones, any explanation of such differences would be incomplete without an analysis of key demographic differences. Therefore the differences across the two studies have been categorized as:

- differences in key demographics
- differences in media (ownership / viewership / listenership)
- differences in readership

All differences were calculated by using the NRS estimates as reference. Thereafter significance tests were applied at 90%, 95% and 99% confidence levels. All significant differences were indexed to NRS estimates and further classified into the following categories :

Confidence level	IRS estimate higher than NRS	IRS estimate lower than NRS	Estimate differences not significant
90%	+	-	NS
95%	++	--	NS
99%	+++	---	NS

V. Process for explaining the differences

Linkages were developed between the inter-study findings' differences and the differences in methodology adopted by the two studies.

The logical progression of arguments used by us was as follows
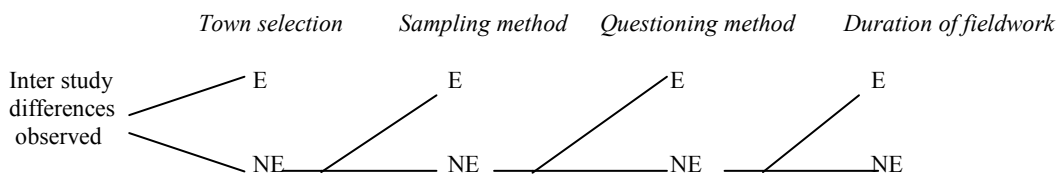
Note: E denotes explained
      NE denotes not explained

V.1 Town selection

Both the studies went to all 200,000 + population towns. However the below 200,000 + population towns sampled by each of them would have been different. While this would not make a difference at the individual metro level, the inter study differences in the states could partly be explained by this factor.

V.2 Right Hand Rule – Electoral roll differences

One of the studies (IRS) had used a combination of electoral roll and Right Hand Rule (RHR) sampling. All cluster-heads for IRS were selected from the electoral rolls, while other cluster members were located by using the Right Hand Rule. This permitted us to examine the differences between the demographic profile of households belonging to the electoral rolls and the households selected through the Right Hand Rule. This analysis was done for key demographics as well as for general media habits.

This profiling was done at both metro/state level and at the All India level (Annexure II). A comparison of the differences at eight metro level versus All India level revealed that the two followed a similar pattern. For instance, at the eight metro level, the incidence of SEC A was significantly higher in cluster-head households at the 99% confidence level. At the All India level, the incidence of SEC A showed the same level of significant difference. The All India differences were slightly more significant than the eight metro differences. This led us to surmise that the electorate profile did not vary all that much between states and metros; at most the states showed more disparity as compared to the metros. Therefore we chose to look at the All India differences for explanations. Columns titled "RHR/ER – All India" refer to differences between RHR and electoral rolls at the All India level.

V.3 Questionnaire design

Though both the studies captured broadly the same information in terms of demographics, general media habits and readership, the method of eliciting responses differed in many instances. Annexure II maps all the differences for comparable questions. These would also be looked at, as a possible explanation of differences in findings pertaining to the respective questions.

V.4 Duration of fieldwork

IRS was a continuous survey and Round 2 fieldwork was spread over ten out of the twelve month period (July – November '97 and January – May '98). On the other hand, NRS was a snapshot study and fieldwork was done over a period of four months beginning mid-June '97. In the case of dynamic variables (eg. C&S availability), we tried to see if this factor is responsible for differences in findings.

VI. Findings differences

VI.1 Key Demographics

VI.1.1 *Sex x Age*

This was the basic level at which both studies projected their data. Very few significant differences existed at this level as both studies had corrected sample profiles to match the Census profile.

Table 1 : Differences in Sex x Age between NRS and IRS

Sex	Age break	Bom	Cal	Del	Mad	MG	WB	UP	AP
Males	15 - 19 years	NS	NS	NS	NS	NS	NS	NS	NS
Males	20 - 24 years	NS	NS	NS	NS	NS	NS	+	NS
Males	25 - 34 years	NS	NS	NS	NS	NS	NS	NS	NS
Males	35 - 44 years	-	NS	NS	NS	--	NS	NS	NS
Males	45 years & above	NS	NS	NS	NS	NS	NS	+++	NS
Females	15 - 19 years	NS	NS	NS	NS	NS	NS	NS	NS
Females	20 - 24 years	NS	NS	NS	NS	NS	NS	NS	NS
Females	25 - 34 years	NS	NS	NS	NS	NS	NS	NS	NS
Females	35 - 44 years	NS	NS	NS	NS	NS	NS	NS	NS
Females	45 years & above	NS	NS	NS	NS	NS	NS	---	NS

VI.1.2 *Socio economic class (SEC)*

We looked at the SEC projections which reflected the random sample differences.

In general IRS estimates of SEC A were lower than that of NRS. We compared this pattern with the All India RHR/ER analysis (last column in the table below), and found that the RHR/ER differences were able to explain this difference in the case of SEC A. However in the case of SEC B and E, where IRS estimates were greater than NRS estimates, we were unable to find explanations in the RHR/ER analysis, excepting two panels - AP and UP.

Table 2 : Differences between SEC structure of NRS and IRS

SEC	Bom	Cal	Del	Mad	MG	WB	UP	AP	RHR/ER - All India
A	---	-	NS	--	---	---	---	---	---
B	+++	+++	+++	+++	+++	+++	NS	---	---
C	+	+++	NS	+++	+++	+++	NS	++	NS
D	NS	+++	++	---	--	NS	--	---	NS
E	-	---	---	--	--	---	+++	+++	+++

VI.1.3. *Education*

IRS estimates of illiterates were lower than those of NRS in most of the panels. This ran converse to the RHR/ER global substitute where we observe an under representation of illiterates on the electoral rolls.

This could well be a reflection of the SEC differences between the two studies. Of total illiterates, SEC E accounts for about two-thirds in either of the studies. Thus lower incidences of SEC E in IRS as compared to the NRS, in six out of eight panels (Bombay, Delhi, Calcutta, Bangalore, Maharashtra/Goa and West Bengal) is accompanied by the lower incidence of illiterates in these very panels. In the remaining two panels (U.P. and A.P.), incidence of both SEC E and illiterates is higher in the IRS, as compared to the NRS. Thus SEC differences in the two studies is mirrored in the different levels of illiteracy in IRS vs. NRS. This is also borne by the education profile differences becoming insignificant within SEC E for the two studies (See Annexure V) in all panels except W.B., U.P. and A.P..In U.P. and A.P., this is tying in with the overall RHR/ER difference.

Table 3 : Differences between education profiles of NRS and IRS

Education	Bom	Cal	Del	Mad	MG	WB	UP	AP	RHR/ER - All India
Illiterate	---	---	---	NS	---	NS	+++	+++	+++
Below SSC	---	---	NS	---	---	---	---	---	+
SSC+ but not Graduate	+++	+++	+++	+++	+++	+++	+++	---	---
Graduate & above	NS	NS	NS	NS	++	NS	---	+++	---

Thus we were able to explain much of the education differences by differences in SEC estimates of the two studies.

VI.1.4 *Occupation*

When compared with the NRS, the incidence of skilled and unskilled workers is higher in the IRS, and that of petty traders and shop owners is lower in the IRS. This falls in line with the RHR/ER analysis pattern.

However, for certain occupations, where IRS incidences are generally higher than the NRS, the RHR/ER analysis does not tie in. These are:

- Clerks/ salesmen/ supervisors

- Self employed professionals/ senior employees

In order to examine whether SEC profile differences are responsible for these occupation differences, we have looked at the occupation differences within each SEC group (See Annexure VI). As we can see, occupation differences within different SEC groups continue to be significant. Thus SEC differences do not appear to be driving these occupation differences.

Table 4 : Differences between occupation profiles of NRS and IRS

Occupation	Bom	Cal	Del	Mad	MG	WB	UP	AP	RHR/ER - All India
Unskilled Workers	+++	---	NS	+++	+++	NS	+++	+++	+++
Skilled Workers	+++	+++	+++	--	+++	+++	+++	+++	+++
Petty Traders/Shop Owners	---	NS	---	NS	---	NS	---	NS	---
Industrialists/Businessmen	+	+++	+++	++	NS	+++	---	---	---
SEP/Senior Employees	NS	+++	++	NS	-	+++	+++	NS	---
Clerk/Salesmen/Supervisors	+++	+++	+++	+++	+++	+++	+++	+++	NS
Junior Executives	NS	NS	NS	NS	NS	NS	---	--	NS

VI.1.5 *Income*

Incidence of the two lowest income groups (Monthly Household Income of Rs. 1,000 or less and Monthly Household Income of Rs. 1,000 – Rs. 2,000), and that of the highest income group (Monthly Household Income of Rs. 10,000 or more), is lower in IRS than that in the NRS.

The under estimation of top income by IRS is well explained by the RHR/ER analysis. However the under estimation of the lowest group by IRS cannot not be explained.

We once more tried to see if the effect of SEC differences could be influencing the income projections (Annexure VI). However this was not indicated by the data and so we were led to conclude that some other inter-study difference was coloring the picture.

One possible cause is the difference in the position of the income question between the two studies (refer Annexure II). NRS asks the question right at the beginning whereas IRS asks it after a whole lot of questions on durable ownership.

We believe that the IRS sequence would lead to less under statement of income in the upper income group, and less over statement in the lower income group, something we typically observe with the income response. Given this assumption the actual differences were not reflecting the expected pattern.

Another possible link is between education and income. IRS estimates of illiterates were lower than those of NRS. If we were to assume that literacy is positively correlated to income, we can explain the differences at the lowest income level.

Table 5 : Differences between MHI profiles of NRS and IRS

MHI	Bom	Cal	Del	Mad	MG	WB	UP	AP	RHR/ER - All India
Upto 1000	NS	---	NS	---	---	---	NS	---	+++
Rs.1001-2000	NS	---	NS	---	---	---	---	+++	+++
Rs 2000-5000	+++	+++	NS	+++	+++	+++	+++	+++	--
Rs.5001-10000	-	+++	NS	+++	NS	+++	+++	NS	---
Rs.10001+	---	NS	---	---	---	NS	+++	NS	---

Table 6 : Summary of demographic differences explained/not explained by the electoral profile analysis

Descriptor		Inter study differences	RHR/ER – All India	Difference explained / not explained
Sex x Age	1	Inter study differences ceased to exist as a common projection base of Census data was used by both studies	Irrelevant since Sex x Age level projection was done as per Census	
SEC	1	Incidence of SEC A lower in IRS	Incidence of SEC A higher in cluster-head households	Explained
	2	Incidence of SEC lower in IRS	Incidence of SEC E higher in RHR households	Not explained
Education	1	Incidence of illiterates lower in IRS	Incidence of illiterates higher in RHR households	Not explained
	2	Incidence of SSC/ undergraduates is higher in IRS	Incidence of SSC and above higher in cluster-head households	Not explained
Occupation	1	Incidence of skilled/unskilled workers higher in IRS	Incidence of skilled & unskilled workers higher in RHR households	Explained
	2	Incidence of petty traders & shop owners lower in IRS	Incidence of petty traders/shop owners and industrialists/businessmen higher in cluster-head households	Explained
MHI	1	IRS has lower incidence of upto Rs.2,000	Incidence of upto Rs 2,000 higher in RHR households	Not explained
	2	IRS has higher incidence of Rs 2,001 to Rs. 10,000	Cluster-head households show higher incidence of Rs. 2,001 to Rs.10, 000	Not explained

VI.2 Access / Exposure to non-press media

VI.2.1 *Television Ownership*

In Delhi, Madras and Andhra Pradesh, IRS estimates of TV owners are lower than that of the NRS.

In Calcutta and West Bengal, IRS estimates of TV owners are higher than the NRS.

Analysis within SEC categories did not explain these differences (Annexure VIII). However incidence of Rs. 2000+ income was higher for IRS in all panels except Delhi.

Barring Madras and A.P., this explains television ownership differences in all six panels.

Table 7 – Differences between Television owners in NRS and IRS

	Bom	**Cal**	**Del**	**Mad**	**MG**	**WB**	**UP**	**AP**	**RHR/ER - All India**
Television owners	NS	+++	---	--	NS	++	NS	---	---

VI.2.2 *Satellite Availability*

In general IRS estimates a larger number of households with cable & satellite (C&S) connections. The only exception is Andhra Pradesh, where the NRS estimates of C&S households are higher. C&S is a dynamic variable and is showing rapid growth. Since the mid-point of IRS fieldwork is four months later than the NRS, IRS estimates of C&S availability are naturally higher than that of NRS.

Table 8 : Differences in C & S availability in NRS and IRS

	Bom	**Cal**	**Del**	**Mad**	**MG**	**WB**	**UP**	**AP**	**RHR/ER - All India**
Available	+++	+++	+++	++	NS	++	NS	---	---
Not available	---	---	---	--	NS	--	NS	+++	NS

V1.2.3 *Television Viewership*

IRS under estimated TV viewership in generaL This could be linked to TV ownership estimates (refer Table 7).

Among viewers, incidence of heavy viewers is higher in IRS. The RHR/ER analysis does not show this pattern.

Table 9 : Differences between television viewership in NRS and IRS

TV Viewership	**Bom**	**Cal**	**Del**	**Mad**	**MG**	**WB**	**UP**	**AP**	**RHR/ER - All India**
None	+++	+++	+++	+++	+++	+++	+++	+++	NS
Light	---	---	---	---	---	---	---	---	NS
Medium	NS	---	NS	--	---	---	---	---	NS
Heavy	---	+++	---	---	---	---	+++	---	+

VI.2.4 *Radio Listenership*

IRS estimates of radio listenership are lower than those of NRS in half the panels (Bom, MG, W.B. and U.P.). In two others (Cal and Delhi), they are higher. In Madras and A.P., they are insignificant.

In this case the method of questioning could have created this difference. NRS lays stress on listened to "these days", which could have led to a period specific high response

Table 10 : Differences between radio listenership in NRS and IRS

Radio listenership	Bom	Cal	Del	Mad	MG	WB	UP	AP	RHR/ER - All India
None	+++	--	---	NS	+++	+++	+++	NS	+++
Light	---	---	---	---	---	---	---	---	+
Medium	---	NS	---	NS	---	---	---	---	NS
Heavy	---	+++	+++	+++	+++	+++	+++	+++	---

VI.2.5 *Cinema viewership*

We were unable to include this analysis, as IRS did not ask the cinema frequency question in the first block of interviews done between July and November '97. All other comparisons were done between NRS and the combined IRS data (from two blocks of fieldwork).

Table 11: Summary of differences in media estimates explained/not explained by electoral profile analysis

Descriptor	Inter study differences	Electoral roll Analysis	Difference explained/not explained
TV ownership	Incidence of ownership lower in IRS	Incidence of ownership higher in cluster-head households	Explained
Satellite availability	Satellite availability overestimated by IRS	Incidence of satellite availability higher in cluster-head households	Not explained
TV viewership	Incidence of TV viewership higher in NRS	TV viewership higher in cluster-head households	Explained
Radio listenership	Incidence of radio listenership higher for NRS	Differences between cluster-head & RHR households is not significant	Not explained

VI.3 Differences in Readership

The primary purpose of the two studies – IRS and NRS – is to estimate readership of publications. Therefore it is critical for us to establish whether differences exist in readership estimates thrown up by the two studies, understand what is the magnitude of these differences (if any) and explore possible causes for the same.

For the purpose of our analysis of differences in readership estimates, we considered only those publications:

   a)   that have been fielded in both studies, and

   b)   whose relative error of the readership estimate is less than 20% in both the studies.

Even among this set, given the large number of publications, for each panel, only those publications that ranked in the top ten in either of the studies were considered for final explanatory analysis. Table 12 below gives the number of publications considered:

Table 12 : Number of Publications considered

Panel	Common Publications	Publications Rel. Err. < 20%	Top ten in NRS or IRS
Bombay	67	24	11
Calcutta	38	19	10
Delhi	57	33	12
Madras	43	16	10
Maharashtra & Goa	63	49	10
West Bengal	37	20	10
Uttar Pradesh	46	28	11
Andhra Pradesh	29	16	11
All 8 Panels	380	205	85

Annexure IV gives us the list of 85 publications considered for final analysis and it also establishes whether the difference in readership estimates of these publications thrown up by the two studies is significant or not.   The direction of difference, implying whether the IRS estimate is higher or lower than that of NRS, has been captured in the sign (+ or -). The magnitude of difference has been captured in whether the difference is significant at 99% confidence level (+++ or ---), 95% confidence level (++ or --) or 90% confidence level (+ or -). Table 13 below summarizes our findings across the eight panels:

Table 13 : Degree and direction of readership differences between NRS and IRS

Panel	+++	---	++	--	+	-	NS	Total
Bombay	4	1	1				5	11
Calcutta	1		1		1		7	10
Delhi	4		1	1	1	1	4	12
Madras	1		1	2			6	10
Maharashtra & Goa	5	2	1		1		1	10
West Bengal	2		3				5	10
Uttar Pradesh	3	3				1	4	11
Andhra Pradesh	2	4		1	1	1	2	11
All 8 Panels	22	10	8	4	4	3	34	85

It is thus clear that there are significant differences between the corresponding readership estimates thrown up by the two studies (51 of the 85 publications considered are significant at 90% confidence level) and the magnitude of differences is indeed large (32 of the 51 are significant at 99% confidence level).

It is interesting to note that in the four states, of the 42 publications considered, there was no significant difference for one-fourth (i.e.12 publications); while in the four metros, of the 43 publications considered, there was no significant difference for half (i.e.22 publications). The higher number of publications with significant differences in readership estimates in the states as compared to that of the metros can be attributed to the fact that state-level publication readership estimates can be impacted by the specific towns selected to represent a state, which were different across the two studies.

Having realized that state-level readership is affected by yet another uncontrollable factor i.e. the specific towns selected to represent a state, we decided to restrict ourselves to just the metros while trying to take the analysis forward to explore specific causes for differences in readership estimates.   Even among the four metros, we chose to focus on two panels – Mumbai and Delhi.

Now, we know that in both the studies the readership questions were administered subject to two filters:

a) LITERACY LEVELS: readership questions are administered only to those who are LITERATE

b) LANGUAGE CAN READ: a specific publication is administered if and only if the respondent CAN READ the specific language of that publication.

Given this, if there are differences in the estimates of the number of individuals who are literate or who can read a specific language in the two studies, it is bound to impact the readership estimate of a publication at an "all 15+ individuals" base. Table 14 summarizes these demographic differences in Mumbai and Delhi:

Table 14 : Demographic differences in Bombay and Delhi

Bombay

Literacy level	NRS %	IRS %	Sig		Language can read	NRS %	IRS %	Sig
Illiterate	12.7	11.0	—		English	46.3	55.8	+++
Below SSC	35.9	32.1	—		Hindi	85.8	91.9	+++
SSC+, but not grad.	32.2	37.1	+++		Marathi	73.2	74.0	NS
Graduate & above	19.3	19.9	NS		Punjabi	-	-	NS

Delhi

Literacy level	NRS %	IRS %	Sig		Language can read	NRS %	IRS %	Sig
Illiterate	21.0	17.8	—		English	48.3	63.7	+++
Below SSC	30.2	25.3	NS		Hindi	97.3	96.1	—
SSC+, but not grad.	23.2	27.4	+++		Marathi	-	-	NS
Graduate & above	25.8	25.5	NS		Punjabi	9.3	11.3	+++

It is evident that there are significant differences in the estimates thrown up by the two studies of individuals with respect to the percentage of individuals who are literate and the percentage who can read a specific language.

To control for differences on account of the LITERACY filter, we adjusted the base from "all 15+" individuals to include only those who are LITERATE, and recomputed the readership estimates and the corresponding significance levels. Similarly to control for differences on account of CAN READ LANGUAGE filter, we adjusted the base of individuals to include only those who CAN READ the specific language of the publication and re-computed the readership estimates and corresponding significance levels. All this was done only for those publications that had a significant difference in their readership estimate when computed on the base of "all 15+" individuals. Table 15 summarizes our findings:

Table 15 : Differences in readership in Bombay and Delhi after adjusting for LITERACY/CAN READ language filters

Panel : Bombay	Readership % among				Panel : Delhi	Readership % among		
Publication	all 15+	literates	read lang		Publication	all 15+	literates	read lang
Navakal	NS				Navbh. Times	+	NS	NS
Loksatta	+++	+++	+++		Punjab Kesari	NS		
Times of India	+++	+++	NS		Hind. Times	NS		
Mah. Times	+++	+++	+++		Grihashobha	+++	+++	+++
Saamna	NS				Times of India	+++	NS	NS
Midday	NS				India Today (Eng)	+++	+++	--
Guj. Samachar	NS				Sandhya Times	NS		
Mum. Samachar	NS				Mano. Kahani	NS		
Filmfare	+++	+++	+		Sarita	++	NS	NS
Grihashobika	++	+	+		India Today (Hin)	+++	+++	+++
Navbh. Times	---	---	---		Hindustan	-	---	---
					Rashtriya Sahara	--	---	---

Adjusting for literacy makes the difference between the two readership estimates insignificant for three publications (Navbharat Times, Times of India and Sarita) in Delhi and helps reduce the magnitude of difference for one publication (Grihashobika) in Bombay.

Adjusting for ability to read language of publication, over and above the literacy filter, helps reduce the magnitude of difference for one publication (India Today - English) in Delhi and two publications (Filmfare and Grihashobika) in Bombay.

Table 16 below summarizes our findings on the impact of LITERACY and CAN READ LANGUAGE filters:

Table 16 : Summary of findings on impact of LITERACY & CAN READ LANGUAGE filters

	Explained fully	Explained partly	Unexplained
Bombay	Times of India	Filmfare Grihashobhika	Loksatta Maharashtra Times Navbharat Times
Delhi	Navbharat Times Times of India Sarita	India Today (Eng)	Grihashobha India Today (Hin) Hindustan Rashtriya Sahara

It is thus clear that adjusting for differences in literacy and ability to read a specific language is NOT adequate to explain fully the significant differences that exist between the readership estimates of several publications. There are other variables, over and above literacy and ability to read a language, that have a bearing on the differences in readership estimates thrown up by the two studies.

We do know (refer to DIFFERENCES IN DEMOGRAPHICS section) that the two studies differ significantly in their estimates of the demographic composition of the universe. One possible explanation is that this distortion in universe demographics has correspondingly distorted the estimates of readership in the two studies. If this were true, there would no significant difference between the readership of publications within each break of a distorted demographic variable.   To explore this hypothesis, we considered only those publications whose difference in readership estimates as thrown up by the two studies remained significant at 99% confidence level even after adjusting for differences in estimates of literacy and ability to read a language. For these publications, we re-computed the readership estimates within each of the breaks of the three most distorted demographic variables (i.e. MHI, Occupation and SEC) and ran the significance test. Table 17 below summarizes our findings:

Table 17 : Readership differences within breaks of key demographic variables

Demographic Variable	Bombay			Delhi			
	Loksatta	Mah. Times	Navbh. Times	Griha Shobha	India Today (H)	Hindutan	Rashtriya Sahara
MHI							
Upto 1000	NS	NS	---	NS	NS	NS	---
1000 to 2000	++	NS	---	NS	NS	---	---
2000 to 5000	+++	++	---	---	NS	---	---
5000 to 10000	+++	NS	---	---	+++	---	--
10000 +	NS	NS	NS	---	++	---	+++
Occupation							
Skilled / Unskilled workers	+++	+++	---	+++	++	NS	---
Petty traders / Shop-owners	+++	+++	---	++	++	NS	NS
Businessmen / Industrialist	++	NS	---	NS	NS	---	NS
SEP / Senior Executives	NS	NS	NS	--	NS	--	NS
Clerks / Salesmen / Sups	NS	NS	NS	---	++	---	--
Officer / Executive - Junior	++	NS	---	--	NS	NS	NS
SEC							
A	NS	NS	--	---	+++	---	NS
B	NS	+++	---	---	+	---	--
C	+++	NS	---	---	++	---	---
D	+++	+++	---	NS	NS	---	---
E	++	NS	---	++	+	--	---

To sum up, the two surveys do differ on their respective readership estimates. Even for the top 10 publications of the two studies, for one-fourth of them, the differences were significant at 99% level.

The survey findings are more divergent in the states than in the metros. Differences in incidence of literates and incidence of ability to read different languages explains the readership either partly or fully in half the instances of significant differences found in Bombay and Delhi.

Demographic differences between the two studies fail to explain the readership differences for the remaining half of the publications.

VII. Conclusion

There are significant differences both on demographic profiles and on publication readership estimates between NRS and IRS.

The fact that the two studies have used two different sampling frames (NRS has used electoral rolls wholly while IRS has used electoral rolls for cluster heads only, with Right Hand Rule leading to other cluster elements) explain only part of the differences.

The sampling frame can at best explain the differences in profile of households contacted at the random phase. Both studies use booster interviews. Even though both studies have similar casualty levels, the character of these casualties could differ.
Final achieved sample is prone to distortion by booster and casualties. This data is however not publicly accessible. This analysis would require active cooperation of the respective industry bodies. This analysis has the potential to resolve some of the unexplained differences

ANNEXURES

Samples Sizes/Universe Estimates

I)   Samples

Panel	Individual Interviews		Household Interviews	
	NRS	IRS	NRS	IRS
Bombay	5855	5022	6224	5810
Calcutta	6279	5102	6617	5496
Delhi	5736	3831	6308	4513
Madras	3764	3035	4054	3349
Mah & Goa	17645	16235	18884	18993
WB	9999	10204	10548	11098
UP	16576	15843	19354	19225
AP	11017	10653	12237	12190

I)   Universe estimates

Panel	Individual Estimates		Household Estimates	
	NRS	IRS	NRS	IRS
Bombay	10920	9936	3325	3108
Calcutta	9054	8922	2413	2451
Delhi	7208	6498	2213	2158
Madras	4619	4458	1372	1389
Mah & Goa	25640	24122	7731	7395
WB	15415	15402	4179	4294
UP	19940	20438	5227	5045
AP	14814	13974	4573	4294

_____

Note: All universe estimates are in thousands

Annexure II

a. Differences in Methodology

NRS	IRS

• **Period**
Snap shot survey covering a period of four months starting mid June '97
 	
• **Universe covered**
- Urban + Kerala rural excluding all off-shore territories and J&K
- Individuals aged 15 years +
 	
• **Sampling**
- Stratified random sampling (states * SCR)
- All 200,000+ towns and publication centres were purposively selected (131)
- For remaining towns a pre-determined number using PPS*
 	
• **Booster sample**
- 9,696 booster interviews in SEC A1 in 23 metros
 	
• **Respondent selection**
- Starting point from electoral rolls
- Cluster of 3-8 households from the starting address all from the electoral rolls
- Individual substitution not allowed
- 5 call backs at both household & individual stage
 	
• **Interviews achieved**
    Urban   131,568
    Rural   3,862
             135,430
 	
• **Casualty rate**
- 6.6% individual casualty
 	
• **Projection method**
- Individual substitution not allowed
- Sex * Age based on Census data
- SEC based on random sample distribution (includes casualties), excluding boosters
- Projected to June 1, 1997
 	
• **Respondent for household interview**
Householder male/female, who decides on most purchases
 	
• **Type of households covered**
Both individual and institutional households
	• **Period**
	- A continuous study covering two blocks of 5 months each. (Jul-Nov'97 and Jan-May'98)
	• **Universe covered**
	- Urban + rural excluding all off-shore territories, J&K and NE states
	- Individuals aged 12 years +
	• **Sampling**
	- Stratified random sampling (states * SCR)
	- All 100,000+ towns and publication centres were purposively selected (296)
	- For remaining towns a pre-determined number using PPS*
	• **Booster sample**
	- 10,500 booster interviews in SEC A across the top 23 towns
	• **Respondent selection**
	- Starting point from electoral rolls
	- Cluster of 5 consecutive households from the starting address using RHR**
	- Household substitution allowed
	- Individual substitution not allowed
	- 3 call backs at both household & individual stage
	• **Interviews achieved (Round 1+ 2)**
	    Urban 134,660
	    Rural 55,934
	             190,594
	• **Casualty rate**
	- 7.5% individual casualty
	• **Projection method**
	- Sex * Age based on Census data
	- SEC based on successful sample distribution, excluding boosters in SEC A
	
	- Projected to September 15, 1997
	• **Respondent for household interview**
	Housewife who decides on most purchases
	
	• **Type of households covered**
	Only individual households

Annexure II contd.

Differences in methodology

<table>
<tr><td>

NRS

- **Rules for household substitution**
  - All households randomly selected from electoral rolls
  - For each selected household, addresses of immediately preceding and succeeding household also selected to serve as substitutes
  - If all electoral roll households are casualties then interviewer contacts geographically nearest household (repeats until successful)
  - 5 call backs per household

- **Rules for individual substitution**
  - no substitution permitted
  - upto 5 call backs per selected individual before declaring casualty

</td><td>

IRS

- **Rules for household substitution**
  Cluster head household
  - Cluster head household selected from the electoral rolls
  - Additionally the next house and the 50th house selected in each block to serve as substitutes
  - 3 call backs for each cluster head before substitution allowed
  - If all 3 addresses from electoral rolls declared casualty then supervisor selects NE corner of block as cluster head
  Right hand rule (RHR) household
  - Consecutive households were contacted using the right hand rule
  - The above procedure used till cluster target achieved

- **Rules for individual substitution**
  - no individual substitution permitted
  - 3 call backs per selected individual before declaring casualty

</td></tr>
</table>

b. Differences in Questions   **Annexure II contd.**

NRS	IRS
Demographic descriptors	**Demographic descriptors**
• **Occupation** For businessman/ industrialist, the number of employees is recorded verbatim by the interviewer and coded later.	• **Occupation** For businessman/ industrialist, the number of employees is pre specified and interviewer has only to code.
• **Socio economic class** Initially information about nature of work, name of organisation and designation is recorded verbatim and then the interviewer asks and codes education and occupation of CWE from a precoded list.	• **Socio economic class** Interviewer uses precoded list for education/ occupation of CWE.
• **Monthly household income** - Asked in the early part of the household schedule - Not disclosed is not precoded	• **Monthly household income** - Asked at the end of the household schedule - Not disclosed is precoded
• **Other demographics** Age, sex, education, etc. asked were similar to IRS	• **Other demographics** Age, sex, education, etc. asked were similar to NRS
Media exposure (Radio/TV/Cinema/Press)	**Media exposure (Radio/TV/Cinema/Press)**
• **Radio listenership** Information is elicited as follows : "In an average week these days, on how many days out of seven do you listen to the radio? You could have listened to the radio anywhere–it need not be at home;it could have been at work, someone else's home or outside".	• **Radio listenership** Information is elicited as follows : "How many days in an average week do you listen to radio? It does not matter where you listen – hairdresser, in a friend's place, in a hotel; and you may have listened to any programmes, any channels".
• **TV viewership** Information was elicited ina two-step manner: 1. "Have you at all watched TV in the last 3 months? It does not matter where; it may have been at home or outside". 2. "In an average week these days, on how many days out of seven do you yourself watch television? It does not matter whether you watch it at home or somewhere else."	• **TV viewership** Information was elicited as follows : "How many days in an average week do you watch television? It does not matter where you watch".
• **TV ownership** This is captured through a series of questions : 1. "Does your household own a TV set (in working condition)? If yes : 2. "How many TV sets including portable TV sets do you have in your household?" For each set : 3. "What kind of set is it? By this I mean is it a colour TV or is it a B&W set?" 4. "Does the TV set have a remote control?"	• **TV ownership** This is captured through a series of questions : 1. "Do you have a TV in working condition?" "How many TV sets does your household have at present in working condition?" 2. "For each set could you please give me details on brand name, TV type (ie: whether B&W or colour), whether it has a remote, number of channels it has?" (Asked for 3 latest sets)

Differences in questions ….

- Cinema viewing
   1. "These days how often do you watch a movie by visiting a cinema hall or visiting a video parlour or watching in a mobile van
      - once a week/ more often
      - once a fortnight
      - once a month
      - once in 2-3 months
      - once in 4-6 months
      - once in 7-11 months
      - once a year
      - less often
      - never go these days
   2. "When did you last watch a movie in
      - last 7 days
      - over 3 days upto 4 weeks
      - over 4 weeks ago upto 3 months
      - over 3 months upto 6 months
      - last 6 to 9 months
      - 9 months to 1 year ago
      - more than 1 year ago

- C&S availability
   Captured through the following questions:
   1. "How do you receive TV programmes on your TV set?" (multicode possible)

ordinary antenna	1
satellite dish antenna	2
through cable operator	3
through other means	4

   2. If 2 or 3 coded above, ask:
      "Do you have a cable convertor or a set top convertor?"

- Readership
   Asked for languages read with understanding
   "This booklet contains the names of various publications. Go through this with me and tell me, for each one, roughly how many issues you have read or looked at recently."
   Dummy card in the masthead booklet is initially used to explain in detail how respondent should reply and a mock response obtained.

- Cinema viewing
   1. "How often these days do you see films in a cinema theatre?"

      - more than once a week
      - once a week
      - once a fortnight
      - once a month
      - 3-4 times a year
      - less often
      - never

   1. "When did you last go to see a movie in a cinema theatre?"
      - in last 7 days
      - over 3 days upto 4 weeks
      - over 4 weeks upto 3 months
      - over 3 months upto 6 months
      - over 6 months ago
      - can't remember
   Cinema frequency was not captured in round 1 and hence we were unable to make comparisons with NRS

- C&S availability
   Captured through the following questions:
   1. "How do you receive the TV channels at your home?" (multicode possible)
      - indoor/portable antenna
      - own ordinary antenna
      - own satellite dish antenna
      - common building ordinary antenna
      - common building dish antenna
      - through cable operator
      - any other

   2. All channels received or tuned are recorded and questions on cable convertor asked.

- Readership
   Asked for languages read
   "I would like you to go through this booklet with me and tell me for each publication, roughly how many issues you have read or looked at recently by choosing one of the statements. As you look at the card, please tell me which of the statements apply."

RHR/ER differences in IRS across descriptors analyzed

Variable		All India	8 Metros	Bom	Cal	Del	Mad	Mah	W.B	U.P	A.P
Sex	Male	++	---	NS	NS	+	NS	NS	NS	NS	+
	Female	--	NS	NS	NS	-	NS	NS	NS	NS	-
Age	15-19 years	+++	+++	++	+++	NS	NS	++	+++	---	+++
	20-24 years	---	---	NS	NS	NS	NS	NS	NS	---	NS
	25-34 years	+++	+++	NS	NS	++	++	NS	NS	+++	++
	35-44 years	+++	+	NS	NS	NS	+	+	++	+++	NS
	45 + years	---	---	-	---	--	---	---	---	---	---
SEC	A	---	---	--	NS	---	NS	---	NS	---	NS
	B	---	NS	NS	NS	NS	NS	NS	-	---	NS
	C	NS	NS	NS	NS	++	NS	NS	NS	--	NS
	D	NS	NS	NS	NS	NS	NS	NS	NS	+++	NS
	E	+++	+++	NS	NS	++	NS	+++	+++	+++	++
Education	Illiterate	+++	NS	NS	NS	NS	NS	NS	++	+++	NS
	Below SSC	+	NS	NS	NS	NS	NS	++	NS	NS	NS
	SSCbut not Graduate	---	NS	NS	NS	NS	NS	NS	NS	---	NS
	Graduate & above	---	---	---	NS	---	NS	---	NS	--	NS
Occupation	Unskilled Workers	+++	++	NS	NS	++	-	+++	NS	NS	+++
	Skilled Workers	+++	++	NS	NS	NS	NS	+	++	+++	+++
	Petty Trdr/Shop Owners	---	NS	NS	NS	NS	NS	NS	---	NS	NS
	Industr./Businessmen	---	NS	NS	NS	NS	NS	NS	NS	NS	--
	SEP./Sr Employees	---	---	NS	--	NS	NS	NS	-	NS	NS
	Clerk/S'men/Supervisors	NS	NS	NS	NS	-	NS	++	NS	++	NS
	Junior Executives	NS	NS	-	NS	NS	NS	NS	NS	NS	NS
MHI	Upto 1000	+++	++	NS	++	NS	NS	++	+++	+++	+++
	Rs.1001-2000	+++	+++	NS	NS	++	NS	+++	++	+++	++
	Rs 2000-5000	--	+	NS	NS	NS	NS	NS	NS	---	---
	Rs.5001-10000	---	---	--	--	---	NS	---	---	---	---
	Rs.10001+	---	---	NS	---	NS	NS	--	---	---	--
TV Ownership	Television Owned	---	---	---	---	--	---	---	---	---	---
Satellite Availability	Available	---	---	-	-	NS	---	---	--	---	---
	Not available	NS	NS	NS	NS	NS	++	NS	NS	NS	NS
TV Frequency	None	+++	+++	++	+	NS	NS	+++	+++	+++	+++
	Light	++	+	NS	NS	NS	NS	NS	NS	NS	NS
	Medium	++	NS	NS	NS	++	NS	NS	NS	NS	NS
	Heavy	NS	---	-	NS	NS	NS	---	---	---	---
Radio Frequency	None	NS	--	NS	-	NS	--	--	NS	NS	NS
	Light	NS	NS	NS	NS	NS	NS	NS	NS	---	NS
	Medium	NS	NS	NS	NS	NS	NS	++	NS	NS	-
	Heavy	+	++	NS	NS	NS	++	+	NS	NS	NS

Readership of Top Ten publications in NRS and IRS

Panel	Publication	NRS %	IRS %	Rank in IRS	Rank in NRS	(IRS - NRS)/NRS
Bombay	Navakal	17.14	16.79	1	1	NS
	Loksatta	10.81	14.30	2	3	+++
	Times of India	11.20	13.20	3	2	+++
	Maharashtra Times	6.90	8.51	4	4	+++
	Saamna	6.21	6.57	5	5	NS
	Midday (Eng)	6.02	6.30	6	6	NS
	Gujarat Samachar	5.18	5.18	7	8	NS
	Mumbai Samachar	4.20	4.30	8	9	NS
	Filmfare	2.85	4.20	9	10	+++
	Grihashobhika	2.59	3.26	10	11	++
	Navbharat Times	5.47	3.09	11	7	---
Calcutta	Anand Bazaar Patrika	19.20	21.24	1	1	+++
	Bartaman	12.55	14.12	2	2	++
	Aajkal	6.83	6.89	3	3	NS
	Sambad Pratidin	4.86	5.62	4	4	+
	Saptahik Bartaman	5.01	5.57	4	6	NS
	Statesman	4.85	5.37	5	5	NS
	Sananda	4.95	4.91	6	6	NS
	Sanmarg	4.38	4.81	7	7	NS
	Telegraph	4.41	4.43	9	8	NS
	Anand Lok	4.36	4.26	10	10	NS
Delhi	Navbharat Times	15.59	16.90	1	1	+
	Punjab Kesari	14.54	15.67	2	2	NS
	Hindustan Times	13.24	14.24	3	3	NS
	Grihashobha	8.75	11.90	4	4	+++
	Times of India	8.23	9.97	5	5	+++
	India Today (Eng)	5.38	7.59	6	8	+++
	Sandhya times	7.33	6.83	7	6	NS
	Manohar Kahaniyan	5.55	6.31	8	7	NS
	Sarita	5.06	6.08	9	11	++
	India Today (Hin)	3.16	5.06	10	13	+++
	Hindustan	5.13	4.40	12	9	-
	Rashtriya Sahara	5.09	4.11	14	10	--

Readership of Top Ten publications in NRS and IRS

Panel	Publication	NRS %	IRS %	Rank in IRS	Rank in NRS	(IRS–NRS)/NRS
Madras	Daily Thanthi	26.93	27.68	1	1	NS
	Kumudam	19.22	20.41	2	2	NS
	Hindu	14.14	14.65	3	3	NS
	Ananda Vikatan	12.67	14.42	4	4	++
	Junior Vikatan	7.66	11.31	5	5	+++
	Dinamani	6.67	7.16	6	7	NS
	Mangayar Malar	7.38	6.03	7	6	--
	Dinamalar	5.30	5.41	8	10	NS
	Dinakaran	5.74	4.87	9	9	NS
	Rani- Weekly	6.04	4.80	10	8	--
Mah&Goa	Lokmat	9.01	11.54	1	2	+++
	Loksatta	7.43	9.44	2	3	+++
	Navakal	9.38	8.27	3	1	---
	Sakal	6.62	7.08	4	4	+
	The Times of India	5.92	6.86	5	5	+++
	Maharashtra Times	4.56	5.04	6	7	++
	Nav Bharat	3.20	4.44	7	8	+++
	Saamna	5.01	4.33	8	6	---
	Grihashobhika	2.97	3.50	9	9	+++
	Midday (Eng)	2.71	2.69	10	10	NS
WB	Anand Bazaar Patrika	15.80	18.28	1	1	+++
	Bartaman	10.77	12.27	2	2	+++
	Aajkal	6.15	6.12	3	3	NS
	Sambad Pratidin	4.39	5.11	4	4	++
	Saptahik Bartaman	4.20	4.88	5	5	++
	Statesman	3.50	4.19	6	8	++
	Sananda	3.87	3.92	7	6	NS
	Anand Lok	3.70	3.61	8	7	NS
	Ganashakti	3.17	3.41	9	9	NS
	Telegraph	3.13	3.23	10	10	NS

Readership of Top Ten publications in NRS and IRS

Panel	Publication	NRS %	IRS %	Rank in IRS	Rank in NRS	(IRS–NRS)/NRS
UP	Dainik Jagran	17.29	17.76	1	1	NS
	Amar Ujala	12.07	12.55	2	2	NS
	Aaj	7.54	6.23	3	3	---
	India Today(Hin)	3.35	5.73	4	7	+++
	Grihashobha	4.84	4.88	5	4	NS
	Sarita	3.25	4.18	6	8	+++
	Manohar Kahaniyan	4.55	3.88	7	5	---
	Maya	2.22	3.45	8	14	+++
	Rashtriya Sahara	3.71	3.06	9	6	---
	Saras Salil	2.79	2.77	10	9	NS
	Satyakatha	2.93	2.58	12	10	-
AP	Eenadu	27.65	25.67	1	1	---
	Swati Sapari Vara Patrika	10.25	11.64	2	2	+++
	India Today(Tel)	3.87	5.15	3	4	+++
	Deccan Chronicle	4.91	4.24	4	3	--
	Hindu	3.04	2.85	5	7	NS
	Andhra Bhoomi Weekly	3.46	2.82	6	6	---
	India Today(Eng)	2.33	2.70	7	8	+
	Siasat	3.48	2.08	8	5	---
	Andhra Prabha	2.17	1.82	9	9	-
	General Knowledge Today	1.61	1.77	10	11	NS
	Andhra Prabha Weekly	1.94	1.47	14	10	---

Differences in Education profiles within each SEC

	Education	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	Illiterate	NS	NS	NS	NS	NS	NS	NS	NS
	Below SSC	NS	--	NS	NS	NS	-	NS	-
	SSC but not grad	NS	NS	NS	NS	NS	NS	NS	---
	Grad & above	NS	NS	NS	NS	NS	++	NS	+++
SEC B	Illiterate	NS	NS	NS	NS	NS	NS	--	NS
	Below SSC	NS	-	NS	NS	---	-	---	---
	SSC but not grad	NS	NS	NS	NS	NS	NS	NS	--
	Grad & above	+++	NS	++	NS	+++	++	+++	+++
SEC C	Illiterate	NS	NS	---	NS	NS	NS	-	NS
	Below SSC	---	--	NS	--	---	-	NS	NS
	SSC but not grad	+++	++	+++	++	+++	++	NS	NS
	Grad & above	NS	NS	NS	NS	NS	NS	NS	NS
SEC D	Illiterate	---	NS	NS	NS	-	NS	NS	NS
	Below SSC	NS	NS	NS	---	---	NS	NS	NS
	SSC but not grad	+++	NS	NS	++	+++	NS	+++	NS
	Grad & above	NS	+++	NS	NS	++	++	NS	NS
SEC E	Illiterate	NS	NS	NS	NS	NS	+++	+++	+++
	Below SSC	NS	NS	NS	-	NS	---	---	---
	SSC but not grad	++	+	NS	NS	++	NS	NS	NS
	Grad & above	++	NS	-	NS	NS	+	NS	NS

Note: All differences are calculated on projected figures

Differences in Occupation profiles within each SEC

	Occupation	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	Skilled & unskilled workers	++	NS	NS	NS	+++	NS	NS	NS
	Petty traders & shopowners	-	NS	--	---	NS	NS	NS	NS
	Businessman/Industrialist	++	NS	++	NS	NS	+++	---	---
	SEP/Sr Executives	NS	+++	NS	++	NS	+++	+	+++
	Clerks/ salesmen/ supervisors	+	+++	+++	+++	++	+++	+++	+++
	Junior & Senior Executives	++	++	++	++	++	++	+	NS
SEC B	Skilled & unskilled workers	+++	NS	NS	NS	+	NS	NS	+++
	Petty traders & shopowners	--	++	NS	NS	---	NS	NS	+
	Businessman/Industrialist	+	+++	NS	+++	NS	+++	--	-
	SEP/Sr Executives	NS	NS	++	NS	+	++	NS	NS
	Clerks/ salesmen/ supervisors	NS	++	++	NS	+++	+++	+++	+++
	Junior & Senior Executives	NS	NS	NS	NS	--	NS	NS	NS
SEC C	Skilled & unskilled workers	+++	+++	+++	NS	+++	+++	NS	NS
	Petty traders & shopowners	---	-	-	NS	---	NS	--	-
	Businessman/Industrialist	--	NS	NS	NS	---	NS	NS	NS
	SEP/Sr Executives	NS	+	NS	NS	NS	++	+++	NS
	Clerks/ salesmen/ supervisors	NS	+++	+++	+	+++	++	+++	+++
	Junior & Senior Executives	NS	NS	NS	NS	NS	NS	NS	NS
SEC D	Skilled & unskilled workers	+++	+++	+++	NS	+++	+++	+++	+++
	Petty traders & shopowners	---	NS	---	NS	---	NS	---	NS
	Businessman/Industrialist	NS	NS	NS	NS	NS	NS	-	NS
	SEP/Sr Executives	NS	++	NS	NS	NS	+++	NS	NS
	Clerks/ salesmen/ supervisors	NS	++	++	NS	NS	+++	NS	+++
	Junior & Senior Executives	NS	NS	NS	NS	NS	NS	NS	NS
SEC E	Skilled & unskilled workers	NS	++	+	+++	+++	+++	+++	+++
	Petty traders & shopowners	--	NS	NS	NS	---	--	NS	NS
	Businessman/Industrialist	NS	NS	NS	NS	NS	NS	NS	NS
	SEP/Sr Executives	NS	NS	NS	NS	NS	NS	NS	NS
	Clerks/ salesmen/ supervisors	NS	NS	NS	NS	NS	NS	--	NS
	Junior & Senior Executives	NS	NS	NS	NS	NS	NS	NS	NS

Note: All differences are calculated on projected figures

Differences in MHI profiles within each SEC

	MHI	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	upto Rs 1000	NS	---	NS	NS	NS	---	--	---
	Rs 1000-2000	NS	---	NS	-	---	---	---	--
	Rs 2001 - 5000	+	---	NS	NS	NS	---	---	---
	Rs 5000 & above	---	+++	---	NS	NS	+++	+++	+++
SEC B	upto Rs 1000	NS	---	NS	--	---	---	---	---
	Rs 1000-2000	NS	---	NS	---	--	---	---	---
	Rs 2001 - 5000	+++	++	+++	+	+++	+++	+++	+++
	Rs 5000 & above	---	++	---	NS	---	+++	+++	NS
SEC C	upto Rs 1000	NS	---	NS	--	NS	---	---	---
	Rs 1000-2000	-	---	NS	---	---	---	---	---
	Rs 2001 - 5000	+	+++	NS	+++	+++	+++	+++	+++
	Rs 5000 & above	---	++	--	+++	---	+++	+++	NS
SEC D	upto Rs 1000	NS	---	NS	---	---	---	--	---
	Rs 1000-2000	NS	---	NS	---	NS	---	---	++
	Rs 2001 - 5000	NS	+++	NS	+++	++	+++	+++	+++
	Rs 5000 & above	NS	++	NS	+++	--	+++	NS	NS
SEC E	upto Rs 1000	NS	---	NS	---	NS	---	NS	---
	Rs 1000-2000	NS	NS	NS	NS	NS	+	---	+++
	Rs 2001 - 5000	NS	+++	NS	+++	NS	+++	+++	+++
	Rs 5000 & above	NS	++	NS	++	NS	++	NS	NS

Note: All differences are calculated on projected figures

Differences in Television ownership within each SEC

	TV ownership	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	TV Owners	NS	++	NS	---	NS	+	+++	NS
SEC B	TV Owners	NS	NS	-	--	NS	---	+++	--
SEC C	TV Owners	NS	NS	NS	NS	NS	NS	NS	---
SEC D	TV Owners	+	++	--	NS	+	NS	NS	---
SEC E	TV Owners	NS	NS	---	-	---	-	NS	---

Note: All differences are calculated on projected figures

Differences in Satellite Availability within each SEC

	Satellite Availability	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	Available	NS	+++	NS	NS	NS	+++	NS	++
	Not Available	NS	---	NS	NS	NS	---	NS	--
SEC B	Available	NS	NS	+++	NS	NS	+	NS	NS
	Not Available	NS	NS	---	NS	NS	-	NS	NS
SEC C	Available	+++	++	+++	+	NS	NS	+++	NS
	Not Available	---	--	---	-	NS	NS	---	NS
SEC D	Available	+++	NS	+++	NS	++	NS	NS	---
	Not Available	---	NS	---	NS	--	NS	NS	+++
SEC E	Available	NS	NS	+++	NS	NS	---	NS	NS
	Not Available	NS	NS	---	NS	NS	+++	NS	NS

Note: All differences are calculated on projected figures

Differences in TV viewership within each SEC

	TV Viewership	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	None	NS	NS	NS	+	NS	NS	NS	+++
	Light	---	---	---	---	---	---	---	--
	Medium	+++	---	NS	--	NS	---	---	NS
	Heavy	NS	+++	+++	+++	+++	+++	+++	NS
SEC B	None	++	NS	NS	+++	NS	NS	---	+++
	Light	---	---	---	---	---	---	---	---
	Medium	NS	---	--	---	NS	---	---	NS
	Heavy	NS	+++	+++	NS	+++	+++	+++	NS
SEC C	None	NS	-	-	+++	NS	NS	-	+++
	Light	---	---	---	---	---	---	---	--
	Medium	NS	---	NS	NS	---	---	---	NS
	Heavy	+++	+++	+++	++	+++	+++	+++	---
SEC D	None	--	NS	NS	+++	NS	++	+	+++
	Light	---	---	---	---	---	---	---	---
	Medium	NS	---	NS	---	--	---	---	---
	Heavy	+++	+++	+	++	+++	+++	+++	-
SEC E	None	NS	NS	+	+++	+++	+++	+++	+++
	Light	-	---	---	---	---	---	---	---
	Medium	++	NS	NS	--	NS	NS	NS	---
	Heavy	NS	+++	++	+	+++	+++	+++	--

Note: All differences are calculated on projected figures

Differences in Radio listenership within each SEC

	Radio Listenership	Bombay	Calcutta	Delhi	Madras	Mah	WB	UP	AP
SEC A	None	+++	+++	+++	+++	+++	+++	+++	+++
	Light	---	---	---	---	---	---	---	---
	Medium	NS	---	NS	NS	---	---	---	-
	Heavy	---	NS	---	NS	---	NS	---	NS
SEC B	None	+++	++	+++	++	+++	+	+++	+++
	Light	-	---	---	---	---	---	---	NS
	Medium	NS	---	--	NS	---	---	---	--
	Heavy	---	+	NS	NS	---	+++	---	---
SEC C	None	+++	NS	NS	+++	+++	NS	+++	+++
	Light	NS	--	---	---	---	--	---	---
	Medium	-	--	NS	--	---	---	---	--
	Heavy	---	+	NS	---	---	+++	NS	---
SEC D	None	+++	NS	+++	+++	+++	+++	+++	+++
	Light	NS	---	---	---	---	---	---	NS
	Medium	NS	--	-	NS	-	--	NS	NS
	Heavy	---	+	NS	---	---	+	NS	---
SEC E	None	+++	+++	+++	+++	+++	+++	+++	+++
	Light	-	---	--	---	---	---	---	---
	Medium	NS	NS	NS	--	NS	NS	-	---
	Heavy	---	NS	--	---	---	NS	---	---

Note: All differences are calculated on projected figures