Quantitative Analysis of Entertainment Tax Revenue: A Case Study of Gujarat

T.K. Jayaraman*

Introduction

RESOURCE mobilisation in different States in India has come to receive considerable attention in recent years. This is due to an increase in the pace of planned economic development as well as growing demands on the States in their discharge of non-development functions, both of which have necessitated a vigorous search for greater financial resources[1].

Among the avenues of taxation open to the States, sales tax occupies an important place. There are a number of studies available on the subject of sales taxation in India in general and with reference to some specific States[2]. Apart from the studies on sales taxation, there are no specific studies on particular taxes levied by the States. This deficiency has been noticed in a recent study on composition of tax revenues of States[3]. Next to sales tax, motor vehicles tax, State excise, electricity duty and passenger and goods taxes rank in the descending order of importance. Though there is some variation among the States in regard to the role of entertainment tax in the total tax revenues of the States, it has grown in importance over time. Entertainment tax is a service tax and increase in revenue from this source reflects its nature of being elastic with respect to income.

The objective of this paper is to examine the role of entertainment tax in the total tax revenues of the Gujarat State by undertaking a quantitative analysis of the revenue from the tax with a view to arrive at its determinants. The first section gives a descriptive account of the entertainment tax in the State and a comparative picture with that of the rest of the country. In the second section, an attempt is made to build an econometric model of the entertainment tax. The third section presents the results of empirical analysis. A summary of the study and policy conclusions are offered in the final section of the paper.

I

THE Constitution of India empowers the States to levy a tax on entertainments by virtue of the entry 62 in the list II of its Seventh Schedule. This takes the form of a levy on the price charged for admission to places of entertainment or amusement which include cinemas, theatrical performances, exhibition, sports and games and variety entertainment.

Historically speaking, this tax was levied for the first time by Bengal in 1922, which was followed by Bombay in 1923. Other provinces adopted the levy since 1936. To-day all the State Governments levy the entertainment tax[4].

There are two ways of levying entertainment tax. One is to charge the tax on the tickets sold and the other is to collect the tax on the basis of a specified percentage of gross total collections. As part of the first method it is insisted that the tickets be serially numbered and properly accounted for. The tax would be a percentage of the gross admission charge. This would mean that the tax element in included in the admission charge itself[5].

The tax rates can be of a specified amount or in percentage terms, on a slab basis. Keeping a specified amount per each class of admission has certain disadvantages; if the admission rates are changed, the specific amount by its nature remains the same and thus there is a lack of flexibility always associated with a specific duty[6].

Hence an ad valorem percentage basis has been advocated for[7]. Now almost all the States have adopted this model. The distinction in classes of admission may differ according to degree of urbanism. Further, a certain degree of differentiation is effected in percentage rates applicable to different classes of tickets.

The entertainment tax thus levied is not a generalised tax. Each State has a scheme of exemptions from the tax on a selective basis[8]. Entertainments, whose proceeds are applied to philanthropic ends, are generally exempt from the tax, provided the whole of the proceeds or the remainder, after deducting a certain percentage for expenditure towards the arrangement of the entertainment are devoted to the purpose. Further, entertainments of educational and cultural value also enjoy exemption. Appreciating the difficulties in defining a given entertainment being one of cultural or educational value, certain States have issued executive instructions which generally exempt whole categories such as dance or classical music performances provided rates of admission charged do not exceed certain maximum level[9]. Further, in some States committees of advisory character function to preview films or performances, the producers of which seek to obtain exemption on the ground that their productions are of cultural or educational value[10].

In Gujarat State, the levy of entertainment tax is regulated by a statute—The Bombay Entertainments Duty and Advertisements Tax Act (1923). For the purpose of levying a differential tax structure, ten major cities[11] have been singled out from the rest of the State. The criterion behind the choice of the cities seems to be population, density of which is intimately connected with the urban characteristics such as relatively higher degree of industrialisation. Towns other than these ten cities come under the description “other areas”.

The rates of entertainment tax on a slab basis for the urban areas are higher than those for the rural areas. This is based on the principle of ability to pay. It is assumed that the people in the urban areas can bear a higher degree of incidence than those residing in rural areas.
Movies provide the chief source of entertainment tax revenue. This is understandable since other kinds of entertainment are either seasonal such as circus or run on non-commercial lines such as classical music performances or performances put up by amateurs, rates of admission to which are usually below the permissible maximum scales for exemption purposes.

The State Government has designed a scheme for encouragement to local movie industry. Films produced in the studios situated in Gujarat and produced with equipment locally installed in those studios are exempt from payment of entertainment tax for a period of six months and the studios are given a cash subsidy. The infant industry promotion scheme has been in operation since mid-1975 and is likely to be of a short-term nature.

Revenue from entertainment tax in Gujarat has been steadily increasing over time. From a figure of Rs. 0.64 crores in 1960-61 when the State came into being, it has grown to Rs. 8.73 crores in 1974-75, for which comparable figures are available for other States as well (Table I).

While the State's total tax revenues have recorded a growth rate of 13.2% per annum over the fourteen-year period, the entertainment tax revenue has grown at the rate of 18.8% per annum as against the growth rate of 18.4% per annum in regard to the revenue from sales tax, the other source of tax revenue. On the all-India level, the corresponding annual rates of growth of all States' total tax revenue, and revenues from entertainment tax and sales tax are 12.0% 16.6% and 16.6% respectively (Table 2).

In 1969-70 the first year of the Fourth Plan, entertainment tax contributed 3.41% to the total tax revenue of Gujarat State as against 2.44% in 1964-65 and 4.52% in 1974-75.

The rates for ten major cities[12] are:

<table>
<thead>
<tr>
<th>Slab rates of admission</th>
<th>First 100 paise or part</th>
<th>Next 100 paise or part</th>
<th>Next amount to any extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 100 paise or part</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Next 100 paise or part</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Next amount to any extent</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
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The rates for the other areas[13] are:

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<tr>
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The scheme of exemption is on the lines indicated earlier. Entertainments on a whole educational character are exempt from the payment of entertainment tax. Further, benefit performances in aid of philanthropic or charitable institutions are exempt provided the expenses for such performances do not exceed 50% of the proceeds from them. Further, the State Government has special powers under the Removal of Hindrances Act to exempt performances from liability to entertainment tax.

In addition to the above provisions, the following entertainments from entertainment tax:

- Performances in aid of Famine Relief Fund and Police Welfare Fund, all-India and state-level;
- Performances by drama, dance and light music groups including Indian classical and light music groups;
- Performances in aid of educational institutions.

Further, the State Government has special powers under the Removal of Hindrances Act to exempt any entertainments from liability to entertainment tax.

On the all-India level, the corresponding rates of growth of all States' total tax revenue, and revenues from entertainment tax and sales tax are 12.0% 16.6% and 16.6% respectively (Table 2). The State Government has designed a scheme for encouragement to local movie industry. Films produced in the studios situated in Gujarat and produced with equipment locally installed in those studios are exempt from payment of entertainment tax for a period of six months and the studios are given a cash subsidy. The infant industry promotion scheme has been in operation since mid-1975 and is likely to be of a short-term nature.

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In this section an attempt will be made to construct a simple econometric model of entertainment tax revenue. As observed earlier entertainment tax is made part of the gross admission fee charged to the patron and is thus borne by the latter. Aggregate entertainment tax revenue of the State can, therefore, be hypothesised to depend on the aggregate consumer expenditure or aggregate State income. As time series figures of aggregate income of the State are more readily available than those of consumer expenditure and income is to positively associate with consumer expenditure the former can be utilised as a candidate variable. Apart from this variable, yet another variable affects the tax revenue and this is the number of theatres in the State. While information is available to form a time series number of theatres, information relating to number of seats in each particular slab is not available. Hence, if we use the number of theatres as a variable, we are forced to assume that there is no year to year variation in regard to the distribution of total number of seats among different slab rates of admission.

Thus a simple functional relationship could be formulated:

$$ED_{G}=f(Y, TR)$$

where, $$ED_{G}=$$ Gross entertainment tax revenue,
$$Y=$$ Net domestic State product, and
$$TR=$$ Number of theatres.

If we assume that this functional relationship takes a specific form such as $$ED_{G}=a Y^{b} TR^{c}$$, b and c the parametric coefficients would signify the estimates of elasticities of gross entertainment tax revenue with respect to net domestic State product and with respect to number of theatres respectively. The regression equation for estimation purpose would then be:

$$\log ED_{G}=\log a+b \log Y+c \log TR+e$$

where, in addition to the symbol already explained above, e is the stochastic error term.

### Table 2

Exponential trend equation fitted for total tax revenue, sales tax revenue and entertainment tax revenue of all States and Gujarat State and the compound rate of growth (r)

<table>
<thead>
<tr>
<th>Period</th>
<th>Nature of revenues</th>
<th>Exponential trend equation fitted</th>
<th>$R^2$</th>
<th>Compound rate of growth (in percentage)</th>
</tr>
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<tr>
<td>1960-61 to 1974</td>
<td>Gujarat State sales tax revenue</td>
<td>$\log Y=3.995+0.078 T$</td>
<td>0.996</td>
<td>18.74</td>
</tr>
<tr>
<td>1960-61 to 1974</td>
<td>Gujarat State net entertainment tax revenue</td>
<td>$\log Y=3.414+0.056 T$</td>
<td>0.937</td>
<td>13.76</td>
</tr>
<tr>
<td>1960-61</td>
<td>Gujarat State total tax revenue</td>
<td>$\log Y=3.441+0.096 T$</td>
<td>0.986</td>
<td>18.74</td>
</tr>
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</table>

Notes: 1. Y and T refer to tax revenues, the dependent variable and the time trend respectively.
2. Figures in parentheses denote 't' values.
3. R: R coefficient of determination.
log a"+b,,( ED)  

= P G,S

log where, subscripts G and N refer to the nature of revenues, gross and net and S, U and R refer to areas, State, urban and rural respectively, log a;is (i",=1,2 ...6) denote intercepts, b;is (i=1,2 ...6) and c;l's (i=1,2 ...6) signify measures of elasticities of entertainment tax revenue, gross or net with reference to State, urban or rural areas with respect to income of the State, urban or rural sector as the case may be respectively, e;l's (i = I, 2 ...6) refer to error terms.

log Gt + c" 10g(T:ts) +e" (10)

log (ED)  

= log a 2 + btl 

log (E~)s + c'2 10 g(TR)  

(11)

log (ED)  

= log a 32 + b 32G,U 

log (~t)  

+c31 log (TRt) +e 32 (12)

log (ED)  

= log a'' + b'' log (Yu)  

+c" log (TRu) +e "  (13)

The above model assumed an aggregated approach. It can be modified to fit a per capita model as well. The regression equations are:

log EDN=log a 1 + b 1 log Y  

+ c1 log TR+e 1  (3)

where, in addition to the variables already explained above, ED N would denote net tax yield of entertainment tax. The estimated b 1 would be the measure of income elasticity.

As there are divergences between the urban and rural sectors in their contribution to the State income and in the number of theatres available to them, it would be appropriate to conduct disaggregated analyses into urban and rural sectors. Further, such an approach would be more meaningful in regard to the coefficient of exploitation of revenue, since there is a differential rate structure operating between these two sectors, the one applicable to the urban being more progressive than the one applicable to the rural sector.

Through linear regression analysis, the following equations can be fitted:

log EDG,S=log a11 + b11 log YS  

+c11 log TRS+c11  (4)

log EDN,S=log a11 + b11 log YS  

+c11 log TRS+c11  (5)

log EDG,U=log a11 + b11 log YU  

+c11 log TRU+c11  (6)

log EDN,U=log a11 + b11 log YU  

+c11 log TRU+c11  (7)

log EDG,R=log a51 + b51 log YR  

+c51 log TRG+c51  (8)

log EDN,R=log a51 + b51 log YR  

+c51 log TRG+c51  (9)

where, subscripts G and N refer to the nature of revenues, gross and net and S, U and R refer to areas, State, urban and rural respectively, log a 11's (i=1, 2 ...6) denote intercepts, b 11's (i=1, 2 ...6) and c11's (i=1, 2 ...6) signify measures of elasticities of entertainment tax revenue, gross or net with reference to State, urban or rural areas with respect to income of the State, urban or rural sector as the case may be and with respect to theatres in the State, urban or rural as the case may be respectively, e 11's (i=1, 2 ...6) refer to error terms.
Empirical results are presented in Tables 4 and 5. Aggregate entertainment tax revenue analysis shows that the estimated equations are fairly good fits as reflected in the $R^2$ obtained. However, the coefficients of exploitation of tax revenue (elasticity measure of gross entertainment tax revenue with respect to income) are not significant except in the rural sector. The rural coefficient of exploitation is greater than unity (1.3) and is significant, the level of significance being chosen 5%.

This means a given 1% increase in rural income would result in an 1.3% increase in gross entertainment tax revenue for the rural sector. The result is not surprising. The consumer earmarks his resources for entertainment only after he meets his expenditure on essentials such as food, clothing, shelter. Whereas the urban sector offers a wide sphere for consumer expenditure including food and entertainment, the rural sector offers a limited scope for such expenditure. In other words, the consumer in rural sector devotes his residual expenditure on movies relatively to greater extent than his counterpart in the urban areas. Hence, the coefficient of exploitation of tax revenue source is significantly higher in the rural region.

The above view is confirmed when we take up the analysis of net tax revenue. Again the elasticity coefficient with respect to income is not significant except in the rural sector. However, it is less than one (0.6). In other words, a given 1% increase in rural income would give rise to only 0.6% increase in net tax revenue.

As regards the other independent explanatory variable, namely the number of theatres, its impact is significant for the State as a whole. The gross revenue elasticity coefficient with respect to the number of theatres is higher than net revenue elasticity coefficient.

### III

**Results of Regression Analysis**

The gross and the net entertainment tax revenues were subject to regression analysis. Equations from (4) to (9) and equations from (10) to (15) pertaining to aggregate and per capita revenue were fitted by the OLS method. The choice of the period was influenced more by the data limitations than by any other considerations. The period covered is from 1967-68 to 1973-74 and in all we have seven observations. An appendix to this paper lists the data sources and describes the procedure adopted for constructing data for the purpose of analysis.

\[
\log \left( \frac{ED}{P} \right)_{G,R} = \log a_{52} + b_{52}
\]
\[
\log \left( \frac{Y}{P} \right) + c_{52} \log \left( \frac{TR}{P} \right) + e_{52} (14)
\]
\[
\log \left( \frac{ED}{P} \right)_{N,R} = \log a_{52} + b_{52}
\]
\[
\log \left( \frac{Y}{P} \right) + c_{52} \log \left( \frac{TR}{P} \right) + e_{52} (15)
\]

where, in addition to the symbols explained earlier $P$ refers to population of the whole State or in urban or rural areas, as the case may be, $a_{i2}$'s $(i=1, 2, ...6)$ denote intercepts, $b_{i2}$'s $(i=1, 2, ...6)$ signify elasticity measures of per capita entertainment tax revenue, gross or net, of the State, urban or rural areas with respect to per capita income of the State, urban or rural sectors as the case may be and $e_{i2}$'s $(i=1, 2, ...6)$ refer to the elasticities of per capita tax gross or net revenue of the State, urban or rural sectors with respect to number of theatres in State or urban or rural areas, as the case may be.

<table>
<thead>
<tr>
<th>Table 4: Results of log linear regression analysis of aggregate gross and net entertainment tax revenue for State, urban and rural areas: 1967-68 to 1973-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of freedom</td>
</tr>
<tr>
<td>D.W.</td>
</tr>
<tr>
<td>$R^2$</td>
</tr>
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</table>

**Notes:**
1. $*$Signifies that the estimated coefficients are significant at 5% level.
3. For explanation of symbols, see the text.
Summary and Conclusions

Entertainment tax as a source of tax revenue has been playing an increasingly important role in the States' finances. At the all-India level, total tax revenues have grown at 12.0% per annum over 1960-61 to 1973-74, whereas entertainment tax revenue has grown at 16.6% annually. In Gujarat State, the corresponding growth rates of total tax revenues and of the revenue from entertainment tax are 13.2% and 18.4%, respectively.

A regression analysis of entertainment tax revenue on an aggregated level under certain assumptions conducted with a view to arriving at its determinants reveals that variations in income in the rural sector have been significantly influencing the variations in gross or net tax revenues compared to variations of income in the urban sector. Theatres in the State as a whole are a significant determinant. The magnitude of elasticities of both gross and net tax revenues with respect to number of theatres is more than unity. A 1% rise in the number of theatres would increase gross revenue by 2.6% and the net tax revenue by 1.1%.

In the disaggregated study, the influence of theatres on either gross or net tax revenue in the rural sector is not significant, whereas it is significant in the urban sector. A 1% increase in number of theatres would increase gross revenue by 1.3% and net revenue by 0.61% in the urban areas.

If we turn to the per capita tax revenue analysis, we find generally the explanatory power of the independent variables is less, as reflected in the relatively low R^2 obtained. None of the coefficients of exploitation of tax revenue source and none of the measures of income elasticity is significant. But the coefficients of elasticity of gross per capita tax revenue basis with respect to per capita number of theatres for the State as a whole and for urban areas are significant. An increase in the number of theatres per capita by 1% in the whole State and urban areas would result in an increase in gross tax revenue per capita from entertainment tax by 3.1% and 1.6%, respectively. These two elasticity measures are not significant for rural areas.

As regards the estimates of elasticity of net tax revenue with respect to number of theatres, only the estimate in regard to the whole State is significant, the measures in regard to the urban and rural areas where disaggregated analysis was done, being insignificant. An increase in the number of theatres by 1% would result in an increase in net tax revenue by 1.1%.

To sum up, the aggregate model seems to be more appropriate from the point of view of explanatory power of the independent variables. Rural sector seems to be responding significantly to the tax exploitation effort whereas the urban sector has a higher elasticity of gross tax revenue with respect to number of theatres. For the State as a whole, income as an explanatory variable has no impact on the gross or net tax revenue but the number of theatres as a variable does have a significant positive influence on the gross and net tax revenue from the entertainment tax.

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A regression analysis of entertainment tax revenue on an aggregated level under certain assumptions conducted with a view to arriving at its determinants reveals that variations in income in the rural sector have been significantly influencing the variations in gross or net tax revenues compared to variations of income in the urban sector. Theatres in the State as a whole are a significant determinant. The magnitude of elasticities of both gross and net tax revenues with respect to number of theatres is more than unity. A 1% rise in the number of theatres would increase gross revenue by 2.6% and the net tax revenue by 1.1%.

In the disaggregated study, the influence of theatres on either gross or net tax revenue in the rural sector is not significant, whereas it is significant in the urban sector. A 1% increase in number of theatres would increase gross revenue by 1.3% and net revenue by 0.61% in the urban areas.

If we turn to the per capita tax revenue analysis, we find generally the explanatory power of the independent variables is less, as reflected in the relatively low R^2 obtained. None of the coefficients of exploitation of tax revenue source and none of the measures of income elasticity is significant. But the coefficients of elasticity of gross per capita tax revenue basis with respect to per capita number of theatres for the State as a whole and for urban areas are significant. An increase in the number of theatres per capita by 1% in the whole State and urban areas would result in an increase in gross tax revenue per capita from entertainment tax by 3.1% and 1.6%, respectively. These two elasticity measures are not significant for rural areas.

As regards the estimates of elasticity of net tax revenue with respect to number of theatres, only the estimate in regard to the whole State is significant, the measures in regard to the urban and rural areas where disaggregated analysis was done, being insignificant. An increase in the number of theatres by 1% would result in an increase in net tax revenue by 1.1%.

To sum up, the aggregate model seems to be more appropriate from the point of view of explanatory power of the independent variables. Rural sector seems to be responding significantly to the tax exploitation effort whereas the urban sector has a higher elasticity of gross tax revenue with respect to number of theatres. For the State as a whole, income as an explanatory variable has no impact on the gross or net tax revenue but the number of theatres as a variable does have a significant positive influence on the gross and net tax revenue from the entertainment tax.
The policy conclusions emerging from the study are:

- Rural sector offers a good exploitation potential for entertainment tax revenue; and
- The tax base, namely, the number of theatres needs to be augmented.

As regards the first conclusion, rise in income in the rural sector is part of overall growth in the economy, especially in the agricultural sector. The planned efforts both at the Central and the State levels are already directed towards this objective.

With regard to the second policy implication, deliberate allocation of investible resources in the Movie theatres construction industry seems justified. At the all-India level, certain State Governments have taken up the matter very seriously.[21] In Gujarat, efforts are underway but the progress has been slow.[22]

One obvious solution would be to earmark a percentage of entertainment tax revenue and transfer it to the State Investment Corporations for disbursement of loans to Movie theatres construction industry. The administrative aspects of the loan programme would be part of the investment corporations' activities and this would not entail any administrative burden to the State Governments.

References

1. For a detailed account of problems faced in this area and efforts made towards mobilisation of resources, see Joshi, M.D., (Ed) Mobilisation of State Resources, New Delhi: Impex India, 1967.
2. Some notable studies are:
   (e) Purushotham, M.C., Sales Taxation in India, New Delhi: S. Chand & Co., 1975.
5. In the earlier days special adhesive stamps were provided for being applied to tickets. In some cases tax is collected on the basis of a specified percentage of the gross collections.
6. Previously in Uttar Pradesh and the former Bombay State, specific amounts were levied on a slab-basis on tickets. Reviewing the position the Film Enquiry Committee set up by the Government of India in 1957 favoured the tax being levied on a percentage basis.
8. A general impression is that the scheme of exemption is needlessly complicated from the point of view of Government and needlessly harressing from the point of view of those who provide the entertainment.
9. Taxation Enquiry Commission recommended that entertainment should be divided into two categories: professional and non-professional and that all non-professional entertainments should be exempted from the liability of payment of tax.
11. The ten major cities are Ahmedabad, Baroda, Rajkot, Surat, Jamnagar, Bhavnagar, Broach, Junagadh, Nadiad and Porbandar.
12. Section 3 (b) (i) of the Bombay Entertainments

Duty Act (1923).
13. Section 6 (b) (II) of the B. Es. D. Act (1923).
15. The exempted performances are listed in the notification No. ENT-1062-TH of October, 24 1962 of Finance Department issued under Section 6 (3) of the Act.
16. Cricket matches of the exempted kind are Ranji and Duleep Trophy matches and first class matches. The runs are calculated as antilog of $b - \log (R - T)$. The year is $T$ and $R$ is the tax revenue.
18. This is also called the ‘buoyancy’ of tax revenue. For a discussion on various concepts and methodology, see Chelliah, R.J., “Elasticity and Rate of Growth of State Taxes” in Joshi, M.D. (Ed.), Mobilisation of State Resources, op. cit., pp. 34-58.
19. Among the various schemes adopted by the State Governments to finance theatre construction, the following are worth mentioning:
(a) The Andhra Pradesh Film Development Corporation set up by the State Government is to be allotted each year 75 per cent of the entertainment tax revenue collected. The Corporation sanctions loans to theatre construction industry only if the cost of a theatre exceeds Rs. 6 lakhs and the maximum amount in each case is Rs. 3 lakhs. The loan is repayable in 60 monthly instalments and the rate of interest charged is 13 per cent with a rebate of one per cent for prompt repayment.
(b) The Tamil Nadu State Government has set up the Tamil Nadu Theatre Corporation Limited for advancing loans on easy terms for construction of semi-permanent and permanent theatres. Loans are also available for conversion of semi-permanent theatres into permanent ones.
(c) The West Bengal State Government has announced a scheme of subsidising the new cinema theatres. The subsidy would be equal to the entertainment tax proceeds collected from such new theatres for a period of three years.
20. Among the various schemes adopted by the State Governments to finance theatre construction, the following are worth mentioning:
21. In Gujarat, the State Industrial Investment Corporation Limited was financing theatre construction activity through a loan programme in 1969 and 1970. The programme has since been discontinued since 1971. Total amount disbursed under this scheme is about Rs. 91 lakhs and the number of theatres so financed is 14. The maximum loan sanctioned for theatres was Rs. 11 lakhs.