5. EMPIRICAL ANALYSIS OF THE INCENTIVE: THE RESULTS

THIS chapter is divided into two sections. The following discusses the estimates of income and price elasticities obtained from various functional specifications of charitable contributions described in Chapter 4. The results obtained from simulations of alternative tax treatments of charitable contributions are scrutinised in the subsequent section.

1. Estimates of Income and Price Elasticities

The income and price elasticities are estimated from the functional specifications of charitable contributions with the alternative definitions of income and price, i.e., for income-price combinations ($Y1$, $P1$), ($Y2$, $P2$), ($Y3$, $P3$) and ($Y4$, $P3$). The elasticities are estimated by ordinary least squares method. The estimates along with their policy implications are discussed below.

(*a*) *Income and price elasticities obtained from the constant elasticities specification.* The estimates of income and price elasticities along with related statistics obtained from the constant income and price elasticities specification of contributions (4.1) are presented in Table 5.1. In spite of the potential problem[1] of collinearity between income and price variables, the estimates of both the income and price elasticities are found to be significant with three alternative definitions of income and price [equations (*i*) to (*iii*)]. The signs of these elasticities conform to our expectation, i.e., positive sign for the income elasticity. This implies that both the increase in income of the donor and the decrease in price of a unit of charity lead to an increase in charitable contributions.

However, when the income-price combination ($Y4$, $P3$) with the measure of income defined In terms of pre-tax rather than post-tax income is used, the estimate of price elasticity is not

found to be significant even at 90 per cent level of confidence [equation (*iv*)]. This income-price combination has been used as a test of robustness. These results seem to indicate that the use of an inappropriate measure of an explanatory variable

TABLE 5.1

Estimates of Income and Price Elasticities of Charitable Contributions obtained from the Constant Elasticities Specification

Equation No.	*Income variable*	*Price variable*	*Constant term*	*Income elasticity*	*Price elasticity*	R^2
			(*1*)	(*2*)	(*3*)	(*4*)
(*i*)	*Y*1	*P*1	—1.893*	0.550*	2.974**	0.30
			(3.33)	(15.42)	(2.34)	
(*ii*)	*Y*2	*P*2	—1.714*	0.528*	—2.890**	0.28
			(2.93)	(14.72)	(2.22)	
(*iii*)	*Y*3	*P*3	—1.660*	0.527*	—2.775*	0.28
			(2.81)	(14.69)	(2.10)	
(*iv*)	*Y*4	*P*3	—1.554*	0.528*	—1.175	0.28
			(2.66)	(14.81)	(0.91)	

Notes: 1. Figures in parentheses represent 't' values.
2. *=Significant at 99 per cent level of confidence.
**=Significant at 95 per cent level of confidence.

can give rise to misleading results. Since it has been argued earlier that the measure of income defined in terms of post-tax rather than pre-tax income is appropriate in influencing the decision on contributions, we ignore the estimates of elasticities obtained with the income-price combination (*Y*4, *P*3) and discuss the policy implications of the estimates obtained with the other three income-price combinations, i.e., (*Y*1, *P*1), (*Y*2, *P*2) and (*Y*3, *P*3).

Between these three income-price combinations, the estimates of both the income and price elasticities are the highest with the combination (*Y*1, *P*1) and the lowest with the combination (*Y*3, *P*3). Neither of the elasticities, however, is

found to differ much between the three combinations, i.e., with respect to the use of three alternative definitions of income and price. The estimates of income and price elasticities with the combination ($Y3$, $P3$), which are the lowest, are 0.527 and – 2.775, respectively, and with the combination ($Y1$, $P1$), which are the highest are 2.550 and –2.974, respectively. The estimates of income elasticity imply that a doner company increases its charitable contributions with increase in its income but the proportional increase in contributions is less than the proportional increase in income. With a 10 per cent increase in the income of a company, the lowest value of income elasticity (0.527) implies that its charitable contributions increase by 5.2 per cent and the highest value of income elasticity (0.550) implies that its contributions increase by 5.4 per cent[2]. With regard to the estimates of price elasticity, the lowest value of the estimate (–2.775) implies that a donor company increases its charitable contributions by 34.0 per cent and the highest value of the estimate (–2.974) implies that it increases its contributions by 36.8 per cent[3] following a 10 per cent decrease in the price of a unit of charity to the donor.

During the period of study, the price of a unit of charity to the donor companies varies from 0.58 to 0.76375.[4] Abolition of the tax incentive would have increased the price of a unit of charity to unity for all the donor companies, i.e., rise in the price of a unit of charity for different donor companies could range from 30.93 to 72.41 per cent.[5] Thus, for a given price elasticity of even –2.775, elimination of the tax incentive would have led to a substantial reduction in charitable contributions. In other words, tax treatment of charitable contributions has led to a substantial increase in charitable contributions. The estimate of the amount of contributions attributable purely to the tax incentive is obtained through simulation of abolition of this incentive, which is discussed in a later section along with simulations of other alternative tax treatments of charitable contributions.

An interesting implication of the price elasticity of this magnitude is that the amount of contributions attributable to the incentive provisions exceeds the tax revenue forgone by the exchequer due to the tax incentive. This means that the increase in charitable contributions received by charitable organisa-

tions due to the tax treatment of contributions is greater than the sacrifice in tax revenue by the exchequer. It follows, therefore, that to the Government of India, a subsidy as stimulus to the activities of charitable organisations through the incentive provisions for contributions is less expensive in comparison to a direct subsidy through the budget, provided the cost of administration of the subsidy is taken to be same under these alternative schems.

Thus. if the alternative to the tax treatment of contributions is a direct subsidy to finance the activities of charitable organisations, then the Government of India is fully justified in allowing deduction for contributions. Further, if it is in the social interest to enhance the activities of these organisations, it should be done through a proper choice of tax incentive provisions rather than through a direct subsidy.

The explanatory power of the constant elasticities specification of contributions (4.1) with all the four income-price combinations is low (column 4, Table 5.1). The income and price variables do not explain more than 30 per cent of the variation in charitable contributions of the donor companies. The explanatory power of the specification is 0.28 with all but one income-price combination ($Y1$, $P1$) with which the explanatory power is 0.30. Although the explanatory power of the specification is low, the F statistics computed for $R2$ (and not for $\bar{R}2$) reveal that the explanatory power is significant even at 99 per cent level of confidence.

The low explanatory power of the constant elasticities specification of contributions could be due to exclusion of variables other than income and price variables from the specification which influence the decision on contributions, mis-specification of the functional form of contributions and large random disturbances. Variables other than of income and price which might influence the decision on contributions of a donor company could be social, political and economic. The economic variables would include volume of investment in a company, rate of return on the investment, liabilities of the donor company, such as, repayment of loans and payment of dividends at a reasonable or desirable rate. Inclusion of such variables or some proxy variables to represent such characteristics of the donor companies in the constant elasticities specification of

contributions might lead to an increase in its explanatory power. But, it has not been possible to include such variables in the present study because of non-availability of requisite information on the donor companies. The results of our attempt at different functional forms of the specification of contributions will be discussed later.

To the extent the variables not included in the specification of contributions are correlated with income and price variables, the estimates of income and price elasticities would have been biased. Further, in this study, it has not been possible to use more sophisticated concepts of income such as permanent income and relative income[6] of the donor companies for lack of requisite data. While the concept of permanent income requires time-series on income of each of the donor companies, the concept of relative income requires proper cross-section data for more than one period.

(*b*) *Income and price elasticities obtained from variable elasticities specification.* Variable income and price elasticities are estimated with the four functional specifications of charitable contributions, which are discussed below.

The parameter estimates are obtained from the functional specification (4.2) that allows the income and price elasticities to vary asymptotically with income and price variables. Neither of the coefficients of price, inverse of price and inverse of income are found to be significant even at 20 per cent level of confidence with all the alternative definitions of income and price. The explanatory power of the specification (4.2) is no better than the explanatory power of the constant elasticities specification (4.1). The insignificance of the coefficients of price and inverse of price variables with high standard errors of the coefficients can be attributed to the high degree of collinearity between price and inverse of price variables. The correlation between price and inverse of price variables is —0.999. The high degree of collinearity between price and inverse of price variables could be due to the small variation in price variable. Therefore, with our set of data, due to the problem of collinearity between price and inverse of price variables, it has not been possible to estimate the asymptotic variation in the price elasticity, if any.

In order to estimate the asymptotic variation in the income elasticity, if any, the specification (4.2) is re-estimated by dropping the variable 'inverse of price', i.e., the specification (4.3). This specification of contributions allows the income elasticity to vary asymptotically with income, and imposes a condition of constant price elasticity. The estimates of variable income elasticity and constant price elasticity along with related statistics obtained from this specification with the alternative definitions of income and price are presented in Table 5.2. Again, the coefficient of inverse of income variable (column 4) is not found to be significant even at 90 per cent level of confidence and the explanatory power of this specification differs little from the explanatory power of the constant elasticities specification (4.1). It thus seems to follow that the income elasticity does not vary asymptotically with income of the donor company.

In order to examine if the income (price) elasticity varies with the logarithm of price (income), we have estimated the functional specification (4.4). It includes an interaction variable as the product of logarithm of income and logarithm of price. None of the coefficients of income, price and interaction variable are found to be significant even at 90 per cent level of confidence and the explanatory power of this specification differs little from that of the constant elasticities specification. The insignificance of the parameter estimates can be attributed to the high degree of multicollinearity between the explanatory variables. The interaction variable is highly correlated with both the income and price variables. Therefore, with our body of data, due to the problem of multicollinearity, it has not been possible to estimate the variation in income (price) elasticity with respect to the logarithm of price (income).

(c) *Income and price elasticities by income class.* In order to estimate income and price elasticities by income class, the income-price combination ($Y3$, $P3$) that seems to be superior to the other combinations, is chosen, and the donors are classified into different income classes with respect to their income ($Y3$). The income and price elasticities are estimated from the constant elasticities specification of contributions for various income classes separately. The classification of donor companies into the three income classes: Rs. 0-1 lakh, Rs. 1-10 lakh, and

TABLE 5.2

Estimates of Income and Price Elasticities of Charitable Contributions obtained from Variable Elasticities Specification

Equation No.	*Income variable*	*Price variable*	*Constant term*	*Coefficient of*			R^2
				Income	*Price*	*Inverse of income*	
			(1)	(2)	(3)	(4)	(5)
(*i*)	*Y*1	*P*1	−1.892*	0.546*	−3.050**	−0.254	0.29
			(3.32)	(14.42)	(2.36)	(0.34)	
(*ii*)	*Y*2	*P*2	−1.700*	0.530*	−2.816**	0.077	0.28
			(2.89)	(14.41)	(2.11)	(0.27)	
(*iii*)	*Y*3	*P*3	−1.644*	0.529*	−2.690**	0.082	0.28
			(2.77)	(14.38)	(1.99)	(0.28)	
(*iv*)	*Y*4	*P*4	−1.550*	0.526*	−1.202	−0.272	0.28
			(2.65)	(14.71)	(0.91)	(0.13)	

Notes: 1. Figures in parentheses represent '*t*' values.
2. *=Significant at 99 per cent level of confidence.
3.**=Significant at 95 per cent level of confidence.

over Rs. 10 lakh is found to be appropriate[7] to examine the variation in the income and price elasticities between the income classes. The estimates of income and price elasticities along with related statistics by income class are given in Table 5.3.

While the income elasticity is found to be significant for all the three income classes of donor companies, the price elasticity is found to be significant only for the middle income class (Rs. 1-10 lakh) donor companies. The price elasticity for the low income (Rs. 0-1 lakh) and high income (over Rs. 10 lakh) donors is negative but not found to be significant even at 90 per cent level of confidence. This could be due to small variation in the price variable within these income classes. The estimate of price elasticity, for low income and middle income donors taken together, is found to be significant and it is lower than the estimate for middle income donors and higher than the estimate for low income donors (equations *iv*, *i* and *ii*). Similarly, the estimate of price elasticity, for middle income and high income donors taken together, is found to be significant and it is lower than the estimate for middle income donors and higher than the estimate for high income donors (equations *v*, *ii* and *iii*). Also, the explanatory power of the constant elasticities specification of charitable contributions increases when middle income donors are taken together with low and high income donors. These results seem to indicate that the price elasticity is higher for the middle income donors than that for the low or high income donors. To improve upon the parameter estimates, we have incorporated this characteristic of price elasticity in the functional specification of charitable contributions and obtained the parameter estimates with all the 564 donor companies. However, we have not found any improvement in either the estimates of income and price elasticities or the explanatory power of the specification of contributions.

2. Simulated Effects of Alternative Tax Treatments of Charitable Contributions

For the purposes of simulation of the effect of the tax incentive on charitable contributions, four alternative tax treatments of contributions considered in the present study are as follows:

(*i*) Abolition of deductions for charitable contributions.[8]

TABLE 5.3

Income and Price Elasticities of Charitable Contributions by Income Class

Equation No.	*Range of income (Y3) (Rs. lakh)*	*Number of donors*	*Total contributions (Rs. lakh)*	*Constant term*	*Income elasticity*	*Price elasticity*	R^2
		(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
(i)	0-1	132	14	−0.952	0.588*	−0.577	0.15
				(1.22)	(5.02)	(0.36)	
(ii)	1-10	275	99	−4.183*	0.785*	−5.567*	0.11
				(3.59)	(5.64)	(2.61)	
(iii)	Over 10	157	175	−2.023	0.602*	1.815	0.10
				(0.98)	(4.37)	(0.44)	
(iv)	0-10	407	113	−1.886*	0.576	−2.814**	0.19
				(3.02)	(9.91)	(2.08)	
(v)	Over 1	432	274	−2.703*	0.561*	−4.882**	0 18
				(3.03)	(10.11)	(2.55)	

Notes; 1. Figure in parentheses represent 't' values.
2. *=Significant at 99 per cent level of confidence.
3.**=Significant at 95 per cent level of confidence.

(*ii*) Replacement of deduction for charitable contributions by a tax credit of 20 per cent.
(*iii*) Replacement of deduction for charitable contributions by a tax credit of 30 per cent.
(*iv*) Replacement of deduction for charitable contributions by a tax credit of 40 per cent.

These alternative tax treatments of charitable contributions allow comparison of the schemes of tax credit with that of deduction as stimulus to contributions. Simulations of the alternative tax treatments of charitable contributions are carried out with the alternative definitions of income and price, i.e., the income-price combinations ($Y1$, $P1$), ($Y2$, $P2$) and ($Y3$, $P3$).

Equation (4.5) is used to simulate the effect of the alternative tax treatments of charitable contributions. These simulations provide estimates of total charitable contributions under the alternative tax treatments. These estimates are used to compute the amount of charitable contributions attributable purely to the alternative incentive schemes. The amount of charitable contributions attributable to a scheme of tax incentive is computed by subtracting from the total amount of contributions under that scheme, the estimate of contributions under the scheme of abolition of deduction for contributions. Under the scheme of deductions for charitable contributions, the loss in tax revenue to the exchequer, i.e., the tax revenue forgone by the exchequer, is estimated by using equation (4.9). And under a scheme of tax credit for charitable contributions, the loss in tax revenue to the exchequer is computed simply by multiplying the total amount of contributions under the scheme by 1 minus the price of a unit of charity, as the price of a unit of charity under a scheme of tax credit is the same for all companies.

The simulated effects of the alternative tax treatments of charitable contributions with the three sets of estimates of income and price elasticities are given in Table 5.4. From the table, it would be noticed that the amount of charitable contributions attributable to the scheme of deductions for contributions exceeds the loss in tax revenue to the exchequer (columns 3 and 4). The efficiency of this scheme of deduction for contributions is found to be quite high; it is more than 200 per cent with all the alternative definitions of income and prices (column

TABLE 5.4

Simulations of Alternative Tax Treatments of Charitable Contributions

Income variable	*Price variable*	*Charitable contributions in the absence of provisions of the deduction*	*Schemes of deductions for charitable cantributions*				*Tax credit of 20 per cent for charitable contributions*			
			Charitable contributions		*Loss in tax revenue to the exchequer*	*Efficiency [columns (3)/(4) ×100]*	*Charitable contributions*		*Loss in tax revenue to the exchequer*	*Efficiency [columns (7)/(8) ×100]*
			Total	*Attributable to the tax incentive [column (2)−(1)]*			*Total*	*Attributable to the tax incentive [column (6)—(1)]*		
		(Rs. lakh)	*(Rs. lakh)*	*(Rs. lakh)*	*Rs. lakh)*	*(Per cent)*	*(Rs. lakh)*	*(Rs. lakh)*	*(Rs. lakh)*	*(Per cent)*
		(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Y1	*P1*	97.19	288.86	191.67	88.85	2 16	188.75	91.56	37.75	2 43
Y2	*P2*	100.24	288.86	188.62	88.83	2 12	191.05	90.81	38.21	2 38
Y3	*P3*	104.56	288.86	184.30	88.82	2 07	194.22	89.66	38.84	2 31

TABLE 5.4 (Contd.)

Income variable	Price variable	Tax credit of 30 per cent for charitable contributions				Tax credit of 40 per cent for charitable contributions			
		Charitable contributions		Loss in tax revenue to the exchequer	Efficiency [columns (11)/(12) ×100]	Charitable contributions		Loss in tax revenue to the exchequer	Efficiency [columns (15)/(16) ×100]
		Total	Attributable to the tax incentive [column (10)—(1)]			Total	Attributable to the tax incentive [column (14)—(1)]		
		(Rs. lakh)	(Rs. lakh)	(Rs. lakh)	(Per cent)	(Rs. lakh)	(Rs. lakh)	(Rs. lakh)	(Per cent)
		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Y1	P1	280.84	183.65	84.25	2 18	444.13	346.94	177.65	1.95
Y2	P2	281.03	180.79	84.31	2 14	438.78	338.54	175.51	1.93
Y3	P3	281.31	176.75	84.39	2 09	431.45	326.89	172.58	1.89

Notes: 1. For these simulations the estimates of income and price elasticities of charitable contributions obtained from the constant elasticities specification of contributions are used.

2. This table is based on the sample companies (564).

5). This means that for a rupee sacrificed in tax revenue by the Government, donations received by charitable organisations increase by more than two rupees. Thus the subsidisation of the activities of these organisations through the tax incentive is less expensive to the Government as compared to the alternative of direct subsidy. This suggests that if it is socially desirable to promote the activities of these organisations, it should be done through an appropriately designed scheme of tax incentive rather than through a direct subsidy.

A comparison of the tax incentive scheme of deduction with the alternative schemes of tax credit shows that the stimulative effect on contributions achieved under the former scheme could also be achieved under the scheme of tax credit of 30 per cent for contributions, with no sacrifice in efficiency of the tax incentive. The amount of charitable contributions attributable to the tax incentive, loss in tax revenue to the exchequer and the efficiency of the tax incentive differ little under these two alternative schemes of the tax incentive (columns 2 to 5 and 10 to 13). Thus, appropriately designed alternative schemes of the tax incentive can be used as stimulus to charitable contributions without any sacrifice in efficiency of the tax incentive such as schemes of deduction and tax credit for contributions.

While the efficiency of a scheme of tax credit as stimulus to contributions decreases, the total amount of contributions as well as the amount of contributions attributable to the tax incentive increase with the increase in the rate of tax credit for contributions (Table 5.4). The total amount of contributions under the scheme of tax credit of 40 per cent is more than twice as under the scheme of tax credit of 20 per cent and the efficiency of the tax incentive under the former scheme is not more than 200 per cent whereas it is not less than 230 per cent under the latter scheme with all the alternative definitions of income and price (columns 6, 9, 14 and 17). It seems that there is a trade-off between the volume of contributions and the efficiency of the tax incentive. This trade-off can also be clearly seen in a comparison of the schemes of deduction and tax credit for contributions. Between the schemes of deduction and tax credit of 20 per cent, while the total amount of charitable contributious is higher under the former scheme, the efficiency of the tax incentive is higher under the latter. Similarly,

between the schemes of deduction and tax credit of 40 per cent while the total amount of charitable contributions is higher under the latter scheme, the efficiency of the tax incentive is higher under the former. Thus, it seems to follow that as more and more of the contributions are to be achieved through the tax incentive, a little sacrifice in the efficiency of the incentive is unavoidable.

In Table 5.4, all the estimates of charitable contributions under alternative tax treatments of contributiohs are based on the contributions of 564 donor companies which have enjoyed total deductions of Rs. 144.43 lakh for charitable contributions. If, on an average, the behaviour of all the 2109 donor companies is assumed not to be different from that of the 564 donor companies, then all the sample estimates of charitable contributions can be adjusted to correspond to all the 2109 donor companies which have availed themselves of total deductions of Rs. 669.00 lakh for charitable contributions. For this purpose, all the estimates of charitable contributions obtained with 564 donor companies are to be adjusted upward in proportion to deductions for contributions of all the donor companies. The adjustment multiplier is the ratio (R=669.00/144.43= 4.6320) of the deductions (Rs. 669.00 lakh) allowed to all the donor companies to the deductions (Rs. 144.43 lakh) allowed to the sample companies. With such adjustments, the efficiency of the tax incentive remains unchanged. The estimates of total charitable contributions, amount of contributions attributable to the tax incentive and its efficiency under all the alternative schemes, adjusted to correspond to all the donor companies, are presented in Table 5.5.

From this table it would be noted that during the assessment year 1978-79 the charitable contributions in the absence of the tax incentive would not have been more than Rs. 484 lakh against Rs. 1338 lakh with the tax incentive, i.e., these would not have been more than 36.17 per cent of the contributions with the tax incentive. If we apply the same rule for the charitable contributions relating to the assessment year 1985-86 the charitable contributions in the absence of the tax incentive would have been less than Rs. 900 lakh as against Rs. 2476 lakh with the tax incentive.

TABLE 5.5

Simulations of Alternative Tax Treatments of Charitable Contributions Adjusted to Correspond to all the 2109 Donor Companies

Income variable	*Price variable*	*Charitable contributions in the absence of provisions of the deduction*	*Scheme of deductions for charitable contributions*				*Tax credit of 20 per cent for charitable contributions*			
			Charitable contributions		*Loss in tax revenue to the exchequer*	*Efficiency [columns (3)/(4) ×100]*	*Charitable contributions*		*Loss in tax revenue to the exchequer*	*Efficiency [columns (7)/(8) ×100]*
			Total	*Attributable to the tax incentive [column (2)−(1)]*			*Total*	*Attributable to the incentive [columns (6)—(1)]*		
		(Rs lakh)	*(Rs lakh)*	*(Rs lakh)*	*(Rs lakh)*	*(per cent)*	*(Rs lakh)*	*(Rs lakh)*	*(Rs lakh)*	*(per cent)*
		(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Y1	*P1*	336	1338	888	412	216	874	424	175	243
Y2	*P2*	464	1338	874	411	212	885	421	177	238
Y3	*P3*	484	1338	854	411	207	900	415	180	231

TABLE 5.5 (Contd.)

Income variable	Price variable	Tax credit of 30 per cent for charitable contributions				Tax credit of 40 per cent charitable contributions			
		Charitable contributions		Loss in tax revenue to the exchequer	Efficiency [columns (11)/(12) ×100]	Charitable contributions		Loss in tax revenue to the exchequer	Efficiency [columns (15)/(16) ×100]
		Total	Attributable to the tax incentive [column (10)−1)]			Total	Attributable to the tax incentive [columns (14)−(1)]		
		(Rs lakh)	(Rs lakh)	(Rs lakh)	(per cent)	(Rs lakh)	(Rs lakh)	(Rs lakh)	(per cent)
		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Y1	P1	1301	851	390	218	2057	1607	823	195
Y2	P2	1302	837	391	214	2032	1568	813	193
Y3	P3	1303	819	391	209	1998	1514	799	189

Note: The sample-based estimates presented in Table 5 4 are blown up to correspond to all the 2109 donor companies, based on the deductions availed of by the sample companies and those availed of by all the donor companies. The blown-up figures are given in this table.

3. Role of Cost of Administration of a Subsidy

The above findings are based on the assumption that the cost of administration of a subsidy as stimulus to charitable contributions is the same whether the subsidy is given indirectly through a scheme of tax incentive or directly through a scheme of block grant. If the cost of administration differs significantly between these schemes of subsidy, then the above findings would need to be qualified. If the cost of administration of a direct lump-sum subsidy is found to be higher than that of a subsidy through the tax incentive provisions in the income tax law, then it would substantiate the above findings. However, if the converse is true, it would give rise to some complex issues. For a given volume of charitable contributions the decision would depend on two factors: (*i*) the cost of administration of a subsidy through a scheme of the tax incentive in excess of the cost of administration of a scheme of block grant, (*ii*) the amount of charitable contributions attributable to the tax incentive in excess of the tax revenue forgone by the exchequer. If the above defined excess cost of administration is lower than the excess amount of charitable contributions, then it would still be appropriate to stimulate the activities of charitable organisations through a suitably designed scheme of the tax incentive rather than through a lump-sum grant. However, if the converse is true, it would be appropriate to stimulate the activities of charitable organisations through a scheme of block grant rather than through a scheme of tax incentive.

4. Scope of Misuse of the Incentive Provisions

Yet another problem that deserves to be commented on in the context of our main findings is the scope of tax evasion under the schemes of tax incentive as stimulus to charitable contributions. Companies might indulge in misuse of the incentive provisions through inflating statements of their charitable contributions, resulting in tax evasion. For example, a company may donate Rs. 60,000 to a charitable organisation and obtain a receipt for Rs. 70,000, and hence enjoy an additional tax benefit on Rs. 10,000 of charitable contributions. Accordingly, the charitable organisation might adjust its accounts by inflating its statement of expenditure. Some charitable organisations might cooperate with donor companies indulging in such illegal

acts for donations of higher amounts from these companies as the resultant tax evasion reduces the effective price of a unit of charity to such a donor company, implying an increase in its charitable contributions. It may also be noted that inflating the statement of expenditure may be beneficial to a charitable organisation even under a scheme of direct subsidy if by doing so it can obtain higher Government grants. But this might have only limited scope. The extent to which donor companies indulge in tax evasion through misuse of the current incentive provisions is an issue that has to be resolved on the basis of facts. In fact, this is an issue important enough to require a separate study.

While tax evasion through misuse of the incentive provisions in the income tax law can be curbed by strengthening the role of tax administration in checking the accounts of charitable organisations and donor companies, the scope is limited. If, in fact, it is found that the evasion by donor companies with the cooperation of charitable organisations is quite high with the subsidy through tax incentive provisions as compared to the additional grants that the charitable organisations can manage from the Government by inflating their statement of expenditure, then the main findings of the present study would need to be qualified.

Notes and References

1. Since the rate of tax saving used in estimating the price of a unit of charity depends on the level of income of the donor company, one might expect a high degree of collinearity between income and price variables. The high of degree collinearity between the explanatory variables can result in high standard errors of the parameter estimates. However, our body of data did not give rise to the problem of collinearity.
2. Since the constant elasticities specification of contributions can be rewritten as

$$C = e^{\bar{a1}} X^{\bar{a2}} P^{\bar{a3}} e^{\bar{u}}$$

where $\bar{a1}$, $\bar{a2}$ and $\bar{a3}$ are parameter estimates of the constant elasticities specification of the contributions (3.1), and $\bar{u}$ is the estimate of error term, the estimate of contributions ($\bar{C}$) of a donor company after increase in its income by 100 per cent is given by

$\overline{C} = a^{\overline{a1}} [(1+r)\ Y]^{\overline{a2}}\ P^{\overline{a4}}\ e^{\overline{u}} = (1+r)^{\overline{a2}} C$

For 10 per cent increase in the income, r=0.1. With the lowest value of income elasticity, i.e., for $\overline{a2}$=0.527, $\overline{C}$ is given by

$\overline{C} = (1+0.1)^{0.527}\ C = 1.052\ C = (1+0.052)\ C$

This implies that charitable contributions of a donor company increase by 5.2 per cent following a 10 per cent increase in its income.

With the highest value of income elasticity, i.e., for $\overline{a2}$=0.550, $\overline{C}$ is given by

$\overline{C} = (1+0.1)^{0.550}\ C = 1.054\ C = (1+0.054)\ C$

This implies that charitable contributions of a donor company increase by 5.4 per cent following a 10 per cent increase in its income.

3. It is clear from the constant elasticities specification of contributions as expressed in note 15 of Ch. 4 that the estimate of contributions ($\overline{C}$) of a donor company after the decrease in the price of a unit of charity to the donor by 100r per cent is given by

$\overline{C} = (1-r)^{\overline{a3}} C$

For 10 per cent reduction in the price of a unit of charity, r=0.1. With the lowest value of price elasticity, i.e., a3=—2.775, $\overline{C}$ is given by

$\overline{C} = (1-0.1)^{-2.775}\ \overline{C} = 1.340\ \overline{C} = (1+0.340)\ C$

This implies that charitable contributions of a donor company increase by 34.0 per cent following a 10 per cent decrease in the price of a unit of charity to the donor company.

With the highest value of price elasticity, i.e., a3 =—2.974, $\overline{C}$ is given by

$\overline{C} = (1-0.1)^{2.974}\ \overline{C} = 1.368\ \overline{C} = (1+0.368)\ C$

This implies that charitable contributions of a donor company increase by 36.8 per cent following a 10 per cent decrease in the price of a unity of charity to the donor company.

4. The marginal rate of tax (inclusive of surcharge) for the companies could vary from 47.25 to 84 per cent. With 50 per cent deduction for the contributions, the price of a unit of charity (P=1—d.m) to a donor company with tax rate of 84 per cent will be

$1-(0.5)\ (0.84) = 1-0.42 = 0.58$

and with tax rate of 47.25 per cent it will be

$1-(0.5)\ (0.4725) = 1-0.23625 = 0.76375$

Generally speaking, companies are subject to flat rates of income tax, apparently the maximum value of the flat rate of tax inclusive of surcharge is 73.5 per cent, i.e., the rate applicable to the income of foreign companies. As discussed earlier (see note 6, Ch. 3), the marginal rate of tax of 84 per cent is the result of special provisions of taxation of income of widely held and closely held industrial companies.

Further, the exclusion of donor companies for whom the rate

of tax saving on deductions for contributions turned out to be 84 per cent from our exercise does not deteriorate the estimates of income and price elasticities. In fact it leads to an increase in the price elasticity of charitable contributions.

5. When the price of a unit of charity increases from 0.58 to 1, the percentage increase is given by $[(1-0.58)/0.58)\ (100)]=72.41$, and when it increases from 0.76375 to 1, the percentage increase is given by $[(1-0.76375)/0.76375)\ (100)]=30.93$.
6. For an exposition of the concept of permanent income and relative income, used in the context of individuals, see Feldstein (1975a).
7. The main considerations in the choice of these three income classes have been the explanatory power of the specification of contributions, and the heterogeneity of the parameter estimates between different income classes. The estimates of income and price elasticities along with the related statistics for various income classes are given and the choice of the income classes is discussed in Annexure IV.
8. This tax change is considered in order to estimate the amount of the contributions which should have been made in the absence of the tax incentive. This estimate along with the simulated effects of other alternative tax treatments of contributions can be used to estimate the efficiency of these alternatives.