PAWAN K. AGGARWAL

STIMULATIVE EFFECTS OF TAX INCENTIVE FOR CHARITABLE CONTRIBUTIONS

A STUDY OF INDIAN CORPORATE SECTOR

NATIONAL INSTITUTE OF PUBLIC FINANCE & POLICY

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Rs. 100

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Pawan K. Aggarwal

NATIONAL INSTITUTE OF PUBLIC FINANCE & POLICY
18/2 Satsang Vihar Marg, Special Institutional Area
New Delhi 110 067

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First published 1989

Published by National Institute of Public Finance and Policy, 18/2 Satsang Vihar Marg, Special Institutional Area, New Delhi 110067. Printed by Comtext Print Services at Typographers (India) A-49/1, Mayapuri Industrial Area, Phase-I, New Delhi-110064.

Preface

The National Institute of Public Finance and Policy is an autonomous, non-profit organisation whose major functions are to carry out research, do consultancy work and undertake training in the area of public finance and policy. In addition to carrying out on its own research studies on subjects that are considered to be important from the national point of view in terms of policy formulation, the Institute also undertakes research projects on subjects of public interest, sponsored by member governments and other institutions.

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The study was sponsored by the Institute itself. It was conducted by Pawan K. Aggarwal under my guidance. The report was also drafted by Pawan K. Aggarwal. Research assistance was provided by Vijay Khari and Sonica Jethwaney. The data were processed on the NIPFP computer with the help of K.K. Atri and A.K. Halen.

The Governing Body of the Institute does not take responsibility for any of the views expressed by the authors in the studies brought out by the Institute. The responsibility for the views expressed rests with the Director and the staff and more particularly with the author of the Report.

A. BAGCHI
DIRECTOR

Acknowledgements

During the period of this study, I have benefited enormously from the generous and unstinted help of Professor Amaresh Bagchi. I am extremely grateful to him.

My gratitude is due to Dr. Raja J. Chelliah for meticulously going through the entire report and offering valuable suggestions.

I am grateful to Drs. Pulin B. Nayak, Shankar N. Acharya, D.K. Srivastava, M.C. Purohit, Arun Kumar, M. Govinda Rao, Shyam Nath, an anonymous referee and Smt. Vibha Aggarwal for their useful comments on an earlier draft of this study.

My thanks are due to the Central Board of Direct Taxes (CBDT). The CBDT took keen interest in the study and extended its good offices in facilitating it.

I would like to acknowledge research assistance by Smt. Vijaya Khari and Sonica Jethwaney. The data relating to this study were processed on the NIPFP computer with the help of S/Shri K.K. Atri and A.K. Halen. My thanks are due to S/Shri R.S. Tyagi and S.N. Sharma for secretarial assistance. I am also indebted to Shri C. Cecil for adept editing of the report.

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1. INTRODUCTION

THE activities of charitable organisations are subsidised by Government in a number of countries. Charitable contributions have been viewed as a special type of expenditure that deserves government subsidy because of its beneficial social effects[1] that are used to justify government intervention in economic activities.

A subsidy may be given through a direct grant and/or through tax concession.[2] The latter can be provided through full or partial tax allowance or tax credit.[3] Different forms of a subsidy can be considered as alternative means to stimulate charitable contributions.

1. Forms of the Incentive in Different Countries

Forms of the tax incentive for charitable contributions differ among countries. Australia, Greece, Norway and the United Kingdom give a fully deductible tax allowance for such contributions. The incentive in the same form but subject to a ceiling in absolute amount or in terms of a fixed proportion of taxable income of the contributor is given in Belgium, Canada, Denmark, France, Germany, Portugal, Turkey and the United States of America (USA). Japan and the Netherlands have a partially deductible tax allowance subject to a ceiling. In India both fully and partially deductible tax allowances are allowed, depending on the character of the beneficiary charitable organisation.

The incentive in the form of a fully deductible tax credit subject to a ceiling is given in New Zealand, and the form of the incentive in Spain can be characterised as partially deductible tax credit.

The benefit of the tax incentive in some of the abovementioned countries is however subject to certain limitations. For example, in Belgium, Denmark and India, no tax allowance is

given unless the contributions exceed a fixed lower limit. Similarly, some of these countries give tax allowance only in respect of the amount of contributions in excess of a fixed amount (e.g., Japan) or in excess of a fixed proportion of taxable income (e.g., the Netherlands).

2. The Issues

Two main issues in the context of charitable contributions are: (*i*) the rationale for charitable contributions and (*ii*) the choice of form of subsidy to stimulate the contributions.

Charitable contributions are primarily philanthropically oriented. Justification for the contributions is given generally in the framework of interdependence of utilities. It is implicit in the hypothesis of interdependence that an individual feels compassion for those who are relatively less well off. The utility of an individual is taken to depend not only on the goods and services personally consumed, but also on the level of utility attained by others.[4] This philanthropic orientation might seem to be inconsistent with the presumed goal of profit maximisation by the corporate entities, but it has been empirically shown by Schwartz (1968) that corporate giving is also philanthropically oriented. A justification for the same is provided in terms of utility functions of the managers. If the utility functions of the managers of corporate entities depend on non-pecuniary elements, business conduct inconsistent with this presumed goal will be generated (Douty, 1972).

The choice of form of subsidy for stimulating charitable contributions gives rise to issues that are complex and wide-ranging. These issues relate mainly to 'visibility' of the subsidy,[5] appropriate definition of income, problems of horizontal and vertical equity, the desirability of decentralised finance for public and quasi-public services, and the effects of the tax incentive provision on both the volume of charitable contributions and the tax yield. Subsidisation through a tax incentive may also raise an issue about the choice of a floor level.[6]

The study aims at analysing the effects of the tax incentive on both the volume of charitable contributions and the tax yield, and evaluation of alternative forms of the tax incentive in terms of efficiency[7] of the different forms.

3. Review of Earlier Studies

There have been a number of attempts in the USA to estimate the effects of the tax incentive for charitable contributions and loss in tax revenue to the exchequer. A variety of data sets based on cross-section and/or time series incorporating low income and/or high income donors have been used. These studies include those of Taussig (1967), Schwartz (1966, 1968 and 1970), Feldstein (1975*a*, 1975*b*), Feldstein and Taylor (1975, 1976), Feldstein and Clotfelter (1976), Boskin and Feldstein (1977), Dye (1977), Fisher (1977), Reece (1979), and Clotfelter (1980). All these studies excepting Schwartz (1968) have focused on the contributions by persons while Schwartz (1968) focused on contributions by corporate entities. All these studies show that the tax incentive in the USA has led to an increase in the charitable contributions. These studies except those by Taussig (1967) and Schwartz (1970)[8] also reveal that the charitable organisations receive more than what is lost in tax revenue by the exchequer due to the incentive, implying that the incentive has been efficient. However, the efficiency of the incentive differs for different categories of charitable contributions like the contributions to educational, religious, and political institutions[9] and with different income-categories of the donors.[10] The findings of the studies conducted in the USA do not necessarily have the same implications for other countries, as especially the economic conditions of the developing countries differ greatly from those of the USA.

4. Objectives of the Study

No study has been attempted to analyse empirically the effects of the tax incentive in developing countries. This study is a step towards filling this gap. It analyses empirically the effects of the tax incentive in a developing country, India.

In India, like in some other countries, the tax incentive to stimulate charitable contributions has been liberalised and extended to contributions to various charitable organisations, over time. These decisions have been based mainly on the belief that the tax incentive leads to a substantial increase in the contributions in relation to the loss in tax revenue rather than on proven facts. Thus the main objectives of the present study are:

(*i*) to provide empirical evidence of the effects of the tax incentive on the volume of charitable contributions and on the tax yield;

(*ii*) to provide an estimate of the efficiency of the incentive; and

(*iii*) to evaluate stimulative effects of the alternative schemes of providing subsidy to the charitable organisations such as direct subsidy and schemes of deduction (tax allowance) and tax credit for charitable contributions.

5. Scope of the Study

The scope of the study is limited to corporate entities (hereinafter referred to as companies). The companies account for a major share of the total charitable contributions. In India, unlike the USA, companies played a relatively greater role in supporting the activities of charitable organisations, and availed themselves of most of the tax relief allowed so far in respect of contributions to such organisations. While the donor companies constituted less than 30 per cent of the total number of those donors who availed of the tax relief for charitable contributions, these companies accounted for more than 75 per cent of the total deductions (tax allowance) and more than 85 per cent of the tax relief allowed (columns 10 to 12 in Table 1.1). The average rate of tax relief, and per donor deductions and the tax relief are also found substantially higher for companies than for non-company taxpayers (Table 1.2).

The present study covers only the declared contributions for which tax relief has been availed. However, some amount of contributions might not have been declared. The likelihood of this omission is more in the case of contributions made to religious organisations.

6. Plan of the Study

The study is divided into five chapters (in addition to this first and introductory chapter) as follows:

Chapter 2 discusses the provisions of the tax incentive for stimulating charitable contributions in India. Also, it describes the rate structure of the corporation income tax.

The problems relating to availability and quality of the data are discussed in Chapter 3. In doing so, quality of both publish-

TABLE 1.1

Deductions and Tax Relief Allowed for Tax Incentives for Charitable Contributions by Category of Donors

Year	Companies			Non-Companies			All-Donors			Donor companies as percentage of all donors	Deductions of companies as percentage of those of all donors	Tax relief of companies as percentage of that of all donors
	Number of donors	Amount of deductions (Rs. lakh)	Tax relief (Rs. lakh)	Number of donors	Amount of deductions (Rs. lakh)	Tax relief (Rs. lakh)	Number of donors	Amount of deductions (Rs. lakh)	Tax relief (Rs. lakh)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1969-70	1041	171	99	4529	49	16	5570	220	115	18.69	77.73	86.09
1975-76	1663	504	298	5538	99	32	7201	603	330	23.09	83.58	90.30
1978-79	2109	669	404	5632	102	28	7641	771	432	27.60	86.77	93.52
1985-86	2982	1238	737	49390	1227	292	52372	2465	1029	9.79	46.81	71.62

Note: Figures reported in this table are based on the total number of income tax payers in the books of the Inc ome Tax Department at the end of a year. These have been estimated on the basis of information obtained from the Directorate of Inspection (Research, Statistics and Public Relations), Income Tax Department, Government of India, and information compiled from the *Report of Comptroller and Auditor General of India* (CAG).

TABLE 1.2

Average Rate of Tax Relief, and Per Donor Deductions and Tax Relief Allowed for Incentive for Charitable Contributions by Category of Donors

Year	*Deductions Per Donor (Rs. thousand)*			*Tax Relief Per Donor (Rs. thousand)*			*Average Rate of tax relief on the contributions (%)*		
	Companies	*Non-Companies*	*All Donors*	*Companies*	*Non-Companies*	*All Donors*	*Companies*	*Non-Companies*	*All Donors*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1969-70	16.55	1·09	3.06	9.55	0.33	1.51	28.86	15.31	24.65
1975-76	30.27	1.79	5.72	17.94	0.57	2.97	29.63	15.95	25.95
1978-79	31.72	1.83	7.68	19.25	0.49	4.16	30.45	13.34	27.09
1985-86	41.52	2.48	4.71	24.71	0.59	1.96	29.77	11.90	20.87

Notes: 1. This table is derived from Table 1.1.

2. Charitable contributions are taken to be double the amount of deductions as the contributions to most of the charitable organisations are eligible for a deduction of 50 per cent of the contributions.

ed and unpublished data are examined from the point of view of the objective of this study.

Chapter 4 presents a conceptual framework of the study and gives methodology for estimating the effects of the tax incentive and for evaluation of the alternative schemes of the incentive. It also discusses the concepts of income and price effects of the tax incentive.

The results of our empirical analysis of the tax incentive are contained in Chapter 5. It gives the estimates of the effects of the incentive in terms of income and price elasticities of the contributions, stimulative effects of the current form of the tax incentive and that of the alternative forms of the incentive on the volume of charitable contributions.

Finally, Chapter 6 presents a summary and policy recommendations of the study. Policy imperatives are also indicated with reference to costs of administration of a subsidy through the tax incentive provisions and through direct grants. Comments on the misuse of tax incentive and on the scope for manipulation of direct grants, and suggestions for improvements in statistical parameters are also included in this chapter.

Notes and References

1. It is interesting to note in this context that in the USA in 1917, the income tax law was amended to allow deductions for charitable contributions when tax rates were sharply increased to finance the war; the introduction of the deduction was intended to offset the effect of higher tax rates on (or prevent the higher tax rates from substantially reducing) charitable contributions (Feldstein, 1975*a*, p. 82).
2. For lucid discussion on the alternative forms of the tax incentive, see McDonel (1972*a* and 1972*b*).
3. Kahn (1960) presents a persuasive argument that a tax credit is a more suitable policy device than a deduction when the purpose is to subsidise some desirable activity rather than to refine the concept of income (pp. 87-91).
4. Reece (1979) points out that this rationalisation was first suggested by Boulding (1962) and Vickrey (1962), subsequently advocated by Schwartz (1970) and later interpreted in a formal model and used to derive some empirical implications of the utility interdependence hypothesis by Becker (1974).
5. A straightforward grant has the merit of 'visibility' and is subjected to periodical scrutiny by the legislature and the public in the

process of preparation of annual budgets. A subsidy through tax provisions is seldom subjected to scrutiny and its revenue effect is not known with certainty. Further, the provisions in the tax laws designed to grant incentives for specific purposes might give rise to considerable administrative as well as enforcement problems. For a lucid exposition of the merits of a direct subsidy, see Surrey (1972). However, it has been argued by some eminent authorities that tax incentives have certain merits to justify their retention in the fiscal armoury while the need for evaluating their cost and benefit is generally accepted. For example, see Bittker (1969) and Feldstein (1976).

6. Goode (1976) presents a case for a floor of 3 per cent of adjusted gross income for the USA (p. 165). The presence of such a floor may affect the contributions significantly as the tax entities cannot enjoy the benefit of tax incentives unless their contributions exceed the specified floor level.
7. A tax incentive for charitable contributions is said to be efficient if the charitable contributions attributable to the incentive exceed the loss in revenue to the exchequer due to the incentive.
8. In the studies of both Taussig (1967) and Schwartz (1970), the explanatory variables employed were not adequately defined, which results in underestimation of the effect of the incentive. For details, see for example, Feldstein (1975*a*).
9. See, for example, Feldstein (1975*b*), and Reece (1979).
10. See, for example, Schwartz (1970).

2. TAX STRUCTURE AND INCENTIVE PROVISIONS

THE income tax as well as special provisions of deduction for charitable contributions in calculating taxable income may affect the volume and distribution of the contributions. The effect of these on the contributions is twofold.[1] First, the tax decreases disposable income which tends to reduce the contributions.[2] Second, special provisions of deduction for charitable contributions reduce the price of contributions and this tends to increase the contributions.[3] In this chapter we give a brief description of the Indian corporate income tax and the provisions of the incentive for charitable contributions.

1. Provisions of the Tax Incentive

The Indian income tax structure contains provisions to stimulate contributions to charitable[4] organisations. Under section 80G of the Income-tax Act 1961, donors are allowed to reduce their taxable incomes by a part or full amount of the contributions, depending on the specified[5] charitable activities of the recipient charitable organisations. In India, unlike in the USA, only contributions of money and not contributions in kind (such as property and paintings) qualify for the tax incentive. If the amount of contributions is less than Rs. 250, then these contributions do not qualify for the tax incentive.[6]

The amount of charitable contributions that qualifies for the tax incentive is subject to a ceiling in the case of some of the recipient charitable organisations and any amount of contributions qualifies for the incentive in the case of other organisations. Therefore, for purpose of a description of the tax incentive provisions, the recipient charitable organisations could be classified into two broad categories depending on the ceiling on the amount of contributions that qualifies for the tax incentive. Let category I consist of those organisations to whom the con-

tributions qualify for the tax incentive subject to a ceiling, and let category II consist of the rest of the organisations.

The charitable organisations covered under category I are the National Defence Fund, the Jawaharlal Nehru Memorial Fund, the Prime Ministers' Drought Relief Fund, the Prime Minister's National Relief Fund, the National Children's Fund and the Indira Gandhi Memorial Trust. Category II includes those approved or notified by the Central Government for the purposes of promoting family planning, maintenance of places of public worship or of historic, archaeological or artistic importance, and for the purpose of stimulating any other charitable activity.

The ceiling on the amount of contributions that qualifies for the tax incentive, in the case of contributions to category I organisations, is calculated as a minimum of 10 per cent of the gross total income, and Rs. 5 lakh.

A deduction of 50 per cent of the amount of contributions is allowed for charitable contributions except for contributions to the Prime Minister's National Relief Fund falling in category I and for contributions to organisations involved in promoting family planning covered under category II. For contributions to the Prime Minister's Relief Fund and to those involved in promoting family planning, a deduction of 100 per cent of the amount of contributions is allowed.

Regarding the historical development of the provisions of the tax incentive, the basic structure of the incentive has remained unchanged since the mid-seventies. The scope of the incentive has however been widened over time. The contributions to the Prime Minister's National Relief Fund, the organisations involved in promoting family planning, the National Children's Fund, and the Indira Gandhi Memorial Trust have been brought within the purview of the tax incentive with effect from the years 1975, 1977, 1983 and 1985 respectively. From April 1, 1987 the contributions to the Rural Development Fund, and to a trust or institution of national importance, undertaking scientific research, etc. will also qualify for the tax incentive.

The provision of deduction of 100 per cent of the amount of contribution was first introduced with effect from April 1, 1977 for contributions to organisations involved in promoting family

planning and later, with effect from April 1986, contributions to the Prime Minister's National Relief Fund were also allowed a deduction of 100 per cent. Contributions to the Rural Development Fund and to a trust or institute of national importance will also qualify for 100 per cent deduction with effect from April 1, 1989.

2. Structure of Corporate Income Tax

The rate structure of Indian corporate income tax depends both on the category of the company and on the source of income. For the purpose of corporate income tax, the companies are classified into two broad categories: domestic and other than domestic (foreign). Domestic companies are further classified into two categories, namely, widely held companies (those in which public is substantially interested), and closely held companies (those in which public is not substantially interested). Closely held companies are further split into two categories: industrial and other than industrial (such as leasing and trade companies).

Domestic companies are subjected to different income tax rate schedules depending on the category of the company, whereas foreign companies are taxed according to source of income. Income of foreign companies from Indians on account of royalty and technical services is taxed at a rate lower than that applicable to their income from other sources in India.

The basic tax rate structure of the corporate income tax in India has remained stable for a fairly long time. During the assessment years 1974-75 to 1983-84, the tax rate schedules applicable to different categories of companies have remained unchanged, though the surcharge on income tax has varied from 0 to 7.5 per cent. The rate of surcharge on income tax was 5 per cent during 1974-75 to 1978-79, 5 to 7.5 per cent during 1980-81, 2.5 per cent in 1982-83 and nil for the assessment years 1979-80, 1981-82 and 1983-84. The tax rate schedules of different categories of companies applicable to the assessment years 1974-75 to 1983-84 are given in Table 2.1.

It would be noted from the table that the basic marginal tax rate could vary from 45 to 80[7] per cent for widely held companies, from 55 to 80 per cent for closely held companies and from 50 to 70 per cent for foreign companies. This reveals

TABLE 2.1

Rate Schedules of Income Tax[1] by Category of Companies

Types of companies/income	*Income tax rate schedule*
Domestic companies — Widely held companies	45% if income ≤ Rs. 1,00,000 55% if !ncome > Rs. 1,00,000[2]
Domestic companies — Closely held companies — Industrial companies	55% if income ≤ Rs. 2,00,000 60% if income > Rs. 2,00,000[3]
Domestic companies — Closely held companies — Other than industrial companies	65%
Foreign companies — Payments received from Indians on account of royalty and technical services	50%
Foreign companies — Balance	70%

Notes: 1. The tax rate schedules given here are applicable to the income relating to the assessment years 1974-75 to 1983-84. In addition, a surcharge on the income tax thus computed is payable at the rate of 5 per cent for the assessment years 1974-75 to 1978-79, at 5 to 7.5 per cent for 1980-81 and at the rate of 2.5 per cent for 1982-83.

2. Such that additional tax does not exceed 80 per cent on the income in excess of Rs. 1,00,000.

3. Such that additional tax does not exceed 80 per cent on the income in excess of Rs. 2,00,000.

differential taxation of companies according to category and the possibility of substantial variation in the marginal rates (45 to 80 per cent) of taxation of different companies during 1974-75 to 1983-84.

In recent years, variation in the tax rates of a company with respect to its income has been eliminated and variation in the tax rates applicable to different categories of companies has also been reduced. In 1984-85, the rate schedules of widely held and closely held industrial companies were replaced by flat rates of tax irrespective of the income level. This did away with the step system of corporate income taxation by income levels. Consequently the possibility of variation in the marginal tax rates of different companies within each of these two categories of companies is completely eliminated. The tax rates for widely held and closely held industrial companies were fixed respectively at 55 and 60 per cent. The tax rates for all the categories of companies except for income of foreign companies from Indians in the form of royalties and technical services have been reduced by 5 percentage points since 1986-87.

The above description of the corporate tax structure reveals that subsequent to 1983-84, the range of basic tax rates of corporate income taxation has been reduced from 45-80 per cent to 50-65 per cent. This suggests that a cross-section of companies in a year upto 1983-84 would have greater variation in the marginal tax rates of different companies than that in a cross-section of companies in a year subsequent to 1983-84. Because of this, the former set of data may be more appropriate than the latter for studying the effects of tax incentive provisions for charitable contributions, on the volume of charitable contributions and on the tax yield.

Notes and References

1. Effects of income tax and special provisions of deduction for the contributions are widely discussed in the literature. See, for example, Taussig (1967) and Feldstein *(1975a)*.
2. This is known as 'income effect', discussed elsewhere in the study.
3. Also known as 'price effect', discussed elsewhere in the study.
4. A charitable organisation is defined as one involved in the

advancement of any object of general public utility not involving the carrying on of any activity for profit such as organisations set up for the purpose of relief of the poor, medical relief and education.

5. For example, while 50 per cent of the contributions to the Prime Minister's National Retief Fund or to the Prime Minister's Drought Relief Fund are deductible, the contributions to the organisations involved in promoting family planning are fully deductible in computing the taxable income of the donor. The details of these tax incentive provisions are given in Annexure I.
6. Section 80G of the Income-tax Act 1961 that contains provisions of the tax incentive is reproduced in Annexure 1.
7. A widely held company was taxed under the step system. The tax rate was 45 per cent if income was less than or equal to Rs. 1,C0,000 and 55 per cent otherwise. However, the rate of 55 per cent was applied subject to the condition that the effective marginal tax rate on income exceeding Rs. 1,00,000 did not exceed 80 per cent. In effect this rate structure was equivalent to the following rate schedule:

Income		*Basic Marginal Tax Rate*
Upto Rs.	10,00,000	45
Next Rs.	40,000	80
Exceeding Rs.	1,40,000	55

3. A REVIEW OF THE DATA

1. Data Requirements

FOR a meaningful evaluation of the tax incentive under study, highly disaggregated data are required. While the effectiveness of a tax incentive can be judged from the aggregate data, the process of estimation of its efficiency requires disaggregated data. It would be ideal to have all the necessary information on a donor company to estimate its income, deduction for charitable contributions, tax saving due to charitable contributions and that required to measure different concepts of income. This would include information on the following aspects[1] of a donor company:

(*i*) Type of the eompany, such as foreign, industrial and other than industrial, closely held and widely held;
(*ii*) Year of assessment;[2]
(*iii*) Gross income (GI);
(*iv*) Loss set-off[3] (LSO);
(*v*) Assessed income (AI);
(*vi*) Actual tax demand[4] (ATD);
(*vii*) Charitable contributions according to the type of recipient charitable organisation such as Prime Minister's Drought Relief Fund and organisations involved in promoting family planning; and
(*viii*) Rate schedule of corporation income tax applicable to the company.

If all this information on donor companies is available for more than one year, these companies can be clubbed for the purposes of estimation of effects of the incentive under study.

In case the number of donor companies is large, evaluation of the tax incentive could be based on a representative sample. Such a sample should include donor companies from all

income classes and all types of companies. This requires two-stage stratified sampling of the donor companies: First-stage stratification with respect to the type of companies and second-stage stratification with respect of income classes of the donor companies.

In the absence of data on each of the donor companies included in the study, the next best alternative would be to use grouped data on the donor companies if available by types and income classes of companies.

The availability and quality of data have to be examined in the light of data requirements of the study.

2. Availability of Data

Not much information is gathered and published about donors and their contributions to charitable organisations. *All India Income Tax Statistics* (*AIITS*) and *Statewise Income Tax Statistics* (*SITS*) are the only sources of published data on charitable contributions by income tax payers. Both these annual publications are brought out by the Directorate of Inspection (Research, Statistics and Public Relations), Income Tax Department, Government of India. While the data on total number of donors and total amount of deduction and tax relief availed of by them for the contributions are contained in *AIITS*, a State-wise break-up of these data is available in *SITS*. The distribution of the donor companies and their charitable contributions either income class-wise or according to the types of companies (liable to different rate schedules of income tax) is not available in either of these two sources of data. While the abovementioned data (published in aggregate form) are of use to form an idea about the effectiveness of tax incentive provisions, it is clear that these data do not conform to our requirements for estimation of effects of the incentive provisions.

For the purposes of this study, we have depended on the unpublished data on the donor companies. As discussed in Chapter 2, the basic corporate tax rates applicable to different categories of companies had remained unchanged during 1974-75 to 1983-84, and variation in rates of taxation between and within the different categories of companies has been greater than that in the later period. Therefore, the data corresponding to the period 1974-75 to 1983-84 would be thought more appro-

priate for analysing the stimulative effects of the tax incentive than those corresponding to the period subsequent to 1983-84. A cross-section of companies corresponding to a year in the former period would have greater variation in tax saving per unit of contributions among different companies than that among the companies during the latter period. In fact, the data corresponding to the latter period may not provide sufficient variation in tax saving per unit of contributions of different companies to estimate the incentive effect on the contributions.

The latest year, falling in the period 1974-75 to 1983-84, for which the required unpublished data could be compiled is 1978-79. The data set used in this study is a cross-section[5] of those donor companies, the assessments of which were completed during the financial year 1978-79. The data on these companies are compiled from their assessment forms, 'Income Tax Non-Statutory 150A' (ITNS-150A) forms. Directorate of Inspection (Research, Statistics and Public Relations) gave us access to the required assessment forms. In the current study, we have attempted to include all those donor companies which have availed themselves of the tax incentive. Specifically, we have obtained data on the following aspects of the donor company:

(*i*) Type of company;
(*ii*) Year of assessment;
(*iii*) Gross income (GI);
(*iv*) Loss set-off (LSO);
(*v*) Assessed income (AI);
(*vi*) Actual tax demand (ATD);
(*vii*) Deduction for charitable contributions; and
(*viii*) State or Union Territory where the head office of the company is located.

In addition, we have obtained data on the number of donors, amount of deductions and tax relief availed of by them for charitable contributions, by two broad categories of donors, companies and non-companies, for a few years. This information by category of donors is not published, in fact it was not compiled by the Department for the years 1979-80 to 1983-84. The data obtained by us for a few years are not based on the

complete coverage of the taxpayers. The limitations in respect of incomplete coverage of the tax payers in *AIITS* are applicable to these data. The coverage of the taxpayers differs from year to year (Gupta and Aggarwal, 1982; Bagchi and Aggarwal 1983). These data obtained by us are blown up to correspond to the population of taxpayers in the corresponding years, so as to give a correct picture of the trend of deductions availed of under the tax incentive. For this purpose, the total number of taxpayers at the end of a year in the books of the Income Tax Department based on the information available in the *Report of the Comptroller and Auditor General of India* (CAG) is taken as the population of taxpayers in that year. These blown-up data have been furnished in Chapter 1 (Table 1.1).

Regarding the set of data on the cross-section of donor companies in the year 1978-79, we have been able to compile information on 564 donor companies from those companies for whom the assessments were completed in the year 1978-79. These 564 companies account for 26.7 per cent of the donor companies and 21.5 per cent of the deductions availed of by all the donor companies in that year.

3. Limitations of the Data

The assessment forms do not contain all the necessary information on donor companies. However, some of the required information can be derived from the information compiled by us from the assessment forms of the companies. Regarding the types of company, the information contained in the assessment form is incomplete. While it states whether the company is foreign or domestic, and widely held or closely held, it does not state whether a closely held company is industrial or other than industrial. This gap in information is important as the industrial and other than industrial closely held companies are subject to different rate schedules of income tax. It has been possible to derive this missing information from the average rate of tax[6] of the company. A closely held company would be an industrial company if its average rate of tax is less than 68.25[7] per cent, and if it is higher or equal, the company is taken to be other than industrial company.

About the amount of charitable contributions, the assessment form includes information on the total amount of deduc-

tion allowed for contributions rather than on total amount of contributions. No break-up of this deduction by type of recipient charitable organisation is available. In the absence of this information, it is not possible to compute the actual amount of contributions made by a company. However, contributions may be estimated reasonably on the assumption that deductions have been availed of at the rate of 50 per cent on all contributions as contributions to all but the organisations involved in promoting family planning are deductible at the rate of 50 per cent. A note of caution that may be sounded here is that, this estimate of charitable contributions may be biased upward, the bias being directly related to the share of contributions to organisations involved in promoting family planning (deduction for contributions to these organisations is allowed at a higher rate) in the total contributions of a company. As this share reduces to zero, the upward bias ceases.

The data compiled from the assessment forms of companies, with the refinements and assumptions discussed above, are used for the purposes of estimation of income effect and price effect of the incentive provisions.

This body of data allows freedom to investigate alternative measures of income and price that are relevant in explaining contributions of donor companies. Also, sufficient independent variation in income and price variables exists to permit an attempt at statistical identification of the income and price effects. This variation has been possible because the different types of companies are liable to be taxed at different rate schedules.[8] In this cross-section of companies, for the same level of income the price of a unit of charity would differ between different type of companies, leading to independent variation in income and price variables. Further, this cross-section of companies provides sufficient variation in the price variable to permit statistical estimation of the price effect of the incentive provisions.

Notes and References

1. The aspects (*ii*) to (*vi*) are explained in Annexure III.
2. Information on the year of assessment is necessary to obtain a time profile of the contributions.
3. Data on loss set-off will help refine the concept of income

wherever necessary.

4. It would be of help in defining post-tax income wherever necessary.
5. We have assumed that widely held companies, closely held companies and foreign companies are homogeneous in behaviour as far as charitable contributions are concerned and included all of such donor companies in our analysis of the incentive provisions.
6. Average rate of tax of a company is simply the ratio of the actual tax demand to assessed income.
7. The maximum rate of tax on industrial and minimum rate of tax on other than industrial closely held companies including surcharge are 63 per cent and 68.25 per cent respectively.
8. In India, though companies are said to be taxed at flat rates of income tax, during the reference period different rates of tax were applicable to different types of companies, and for both the widely held companies and closely held industrial companies two flat rates of tax were applicable, depending on their level of income. Two flat rates of tax applicable to a category of companies were in effect equivalent to a rate schedule for that category of companies. For example, a widely held company paid income tax at the rate of 45 per cent if its income did not exceed Rs. 1,00,000 and at the rate of 55 per cent if its income exceeded Rs. 1,00,000, such that additional tax did not exceed 80 per cent on the income in excess of Rs. 1,00,000. This was equivalent to the following rate schedule of income tax:

Income	*Rate of income tax (per cent)*	
	Exclusive of Surcharge	*Inclusive of Surcharge*
1. Upto Rs. 1,00,000	45.00	47.25
2. Next Rs. 40,000	80.00	84.00
3. Exeeeding Rs. 1,40,000	55.00	57.75

Surcharge was levied at the rate of 5 per cent on the income tax.

4. A MODEL OF CHARITABLE CONTRIBUTIONS

1. A Methodological Framework

CONSIDER that, one of the objectives of the Government is to provide finance to charitable organisations. Let us consider two alternatives to do so; the government can endow money to the charitable organisations through block grant or by encouraging the taxpayers, through a tax incentive, to directly contribute more to charity. Since taxpayers want to pay less taxes and also draw satisfaction from contributing to charity, tax incentives for charitable contributions assume significance. A tax incentive results in tax saving to the donor and thereby reduces price of charity to the donor. However, this results in loss in tax revenue to the exchequer. This leads to a trade-off between tax revenue forgone by the exchequer and the contributions received by charitable organisations.

Given the price of charitable contributions and other uses of income, a taxpayer, subject to his budget constraint, decides about the amount of charitable contributions. The taxpayer is presumed to maximise his utility which is taken to depend not only on his consumption of goods and services but also on the consumption of those who receive the benefits of charity.

The budget constraint of a taxpayer can be specified as:

$$M+C+T \leqslant Y$$

where Y=pre-tax income of the taxpayer,
T=actual tax liability of the taxpayer,
C=contribution to charitable organisations,
M=use of income for purposes other than payment of tax and contribution to charity.

Because of the tax incentive for charitable contributions, the

price of one unit of charitable contribution is less than unity while it is unity for other uses of income. Therefore actual cost of charitable contributions is less than the actual contribution (C) by the amount of tax saving (TS). Let P be the price of charitable contributions to the donor. Now the gross contributions can be decomposed into two components as:

$$C+C.P+TS$$

Substituting for C in the above budget constraint, we get

$$M+C.P+TS+T' \leqslant Y$$

or $$M+C.P+T' \leqslant Y$$

or $$M+C.P \leqslant Y-T'=Y^*$$

where $T'=T+TS$ and $Y^*=Y-T'$ can be interpreted respectively as tax liability and post-tax income of the taxpayer had there been no tax incentive for charitable contributions and $C.P$ can be interpreted as net cost to the taxpayer, of charitable contributions.

The price of one rupee that is contributed to a charitable organisation is measured in terms of forgone post-tax income, i.e., the gross contributions minus the tax saving. The tax saving depends on the marginal rate[1] of tax of the donor and the percentage of deduction allowed for contributions. Therefore, the price of a unit of charity varies inversely with the marginal rate of tax of the donor and the percentage of deduction allowed for contributions. For example, if 50 per cent of the contributions is deductible in calculating taxable income, then an assessee with his marginal tax rate of 60 per cent can contribute Rs. 100 to a charitable organisation by forgoing only Rs. 70. In this case the tax saving is Rs. 30 and the price of a unit of charity is 0.7. If 100 per cent of the contributions is deductible, as is the case for contributions to organisations involved in the promotion of family planning, then the price of a unit of charity for the assessee would be 0.4. Symbolically, the price of a unit of charity (P) can be expressed as follows:

$$P=1-d.m$$

where,

d = Proportion of the contributions allowed as deduction

m = Marginal rate of tax of the taxpayer.

For a deduction of 50 per cent of the contributions, d=0.5.

The income and price effects on charitable contributions can be estimated empirically by estimating plausible functional specification(s) of demand for charitable contributions. It is the price effect that is regarded as the incentive effect (Taussig, 1967, p. 3). The income effect and the price effect of the tax incentive are estimated generally in terms of respectively income and price elasticities of charitable contributions. The income and price effects may vary between different locations such as States, and between different recipient organisations such as educational and religious.

The price elasticity, as discussed later, can be used to explain the trade-off between revenue forgone by the exchequer and the contributions received by the charitable organisations due to the tax incentive.

The estimates of income and price elasticities can be used to evaluate alternative schemes of the tax incentive. The stimulative effects of alternative schemes of the tax incentive can be evaluated in terms of their efficiency[2]. Estimation of efficiency of any tax incentive scheme involves estimation of the following:

(*i*) Contributions to charitable organisations attributable purely to the tax incentive, which can be obtained with the help of price and income elasticities of charitable contributions; and

(*ii*) tax revenue forgone by the exchequer due to the tax incentive which is the same as the tax saving by the donors due to the tax incentive.

Interpretations of price elasticity are outlined in the following section. A new concept of price and other concepts of income and price used in the literature are discussed in the subsequent section. Plausible functional specifications of demand for charitable contributions and the procedure for simulation of alternative schemes of the tax incentive are presented in the

remaining two sections.

2. Interpretations of Price Elasticity

A negative price elasticity would mean that the tax incentive effectively enhances charitable contributions. But a negative price elasticity in itself does not imply a substantial increase in the contributions to the extent that the contributions attributable to the tax incentive exceed the tax revenue forgone by the exchequer due to the incentive.

If the price elasticity is negative and greater than unity in absolute value (i.e., <-1), the additional contributions received by charitable organisations (donees) will exceed the tax revenue forgone by the exchequer, due to the tax incentive.[3] In such a case, the efficiency of the tax incentive is said to be more than 100 per cent. So with a price elasticity that is negative and greater that unity in absolute value, it would be appropriate to subsidise the charitable organisations through an appropriately designed scheme of the tax incentive rather than through a direct subsidy through the budget.[4] Conversely, if the price elasticity is positive or negative but less than unity in absolute value (i.e., >-1), it would be appropriate to subsidise charitable organisations through a direct subsidy rather than through tax incentive provisions.

The price elasticity of exactly -1 has special implications. It would mean that the response of donors to price changes is such that the net cost of contributions to the donor remains unchanged under the tax incentive. For example, if for a donor the price of contributions changes from $p1$ to $p2$, then the contribution at price $p2$ equals the sum of contributions at price $p1$ and the additional tax relief to the donor due to the change in both the price and the contributions. Charitable organisations receive an amount equal to the net cost of charity to the donor (that remains unchanged with changes in price of a unit of charity) plus the tax revenue forgone by the exchequer. The efficiency of the tax incentive is 10 per cent, i.e., the additional funds received by the donee(s) as percentage of the tax revenue forgone by the exchequer equals 100. This would mean that in financing through the tax provisions, the level of contributions made during a reference period, the government neither gains nor loses in its financial position as compared to the alterna-

tive method of financing it through a direct subsidy. So, with a price elasticity of -1, the government would be indifferent between the tax incentive and a direct subsidy as long as the cost of administration and the scope of misuse of the provisions do not differ between these alternatives.

3. Concepts of Income and Price of a Unit of Charity

An ideal measure of economic income[5] cannot be obtained from the data contained in the assessment form. Exclusion of income from several specified sources, treatment of unrealised capital gains, and schemes of accelerated depreciation make the reported values different from the appropriate theoretical value of the income variable. Given this situation, we can only take gross income (*GI*) minus loss set-off (*LSO*) as a workable measure of economic income. We shall call it adjusted gross income (*AGI*)[6]. Various alternative measures of income based on income before tax and income after tax, and of price have been used in the literature,[7] in explaining charitable contributions. The choice of the proper measures of income and price is an issue sufficiently complex and important to require careful consideration.

(*a*) *Measures of price.* As discussed in Chapter 1, the definition of price variable is the 'net cost' of one rupee of charitable contribution, measured in terms of forgone post-tax income, i.e., the gross contribution minus the tax saving. The main issue in the choice of an appropriate measure of price is centred around the choice of an appropriate rate of tax for estimation of tax saving due to contributions. The two alternative measures of price which have been used in the literature[8] in the estimation of price effect of the incentive provisions, are given below:

(*i*) The first measure of price ($p1$) is defined as 1 minus the tax saving on one rupee of charitable contributions estimated in terms of the marginal rate of tax ($M1$) applicable to an additional rupee of charitable contributions, i.e., the last rupee of taxable income (assessed income). This tax saving or tax relief on a rupee of charitable contributions is the product of the marginal rate of tax ($M1$) and the percentage deduction (d) allowed for contributions.[9] Hence, symbolically,

$$P1 = 1 - d.M1$$

This measure of price is similar to the price variable used in Taussig (1967). The corresponding tax saving ($TR1$) on a given volume of charitable contributions (C) to the donor is given by

$$TR1 = C.\ d.\ M1$$

(*ii*) The second measure of price ($p2$) is defined as 1 minus the tax saving on one rupee of charitable contributions estimated in terms of the marginal rate of tax ($M2$) applicable to the first rupee of charitable contributions, i.e., the last rupee of income assessable before deduction for charitable contributions ($YP2$), i.e., assessed income plus deduction for contributions. This tax saving on a rupee of charitable contributions is the product of the marginal rate of tax ($M2$) and the percentage deduction (d) allowed for contributions. Hence symbolically,

$$P2 = 1 - d\ M2$$

This measure of price is similar to the price variable used in Feldstein (1975*a*). The corresponding tax saving ($TR2$) on a given volume of charitable contributions (C) to the donor is given by

$$TR2 = C.\ d.\ M2$$

The measure $P1$, unlike $P2$, depends on the amount of charitable contributions. The higher the contributions in relation to a given $YP2$, the lower the assessed income and the lower could be the marginal rate of tax $M1$ and hence the higher could be the value of the measure $P1$. This could introduce a spurious positive correlation between the contributions and the measure of price $P1$, biasing the estimate of price effect of the tax incentive. Therefore, the measure $P2$ seems to be preferable to the measure $P1$. The measures $M1$ and $M2$ and hence the measures $P1$ and $P2$ will be identical if the same marginal rate of tax is applicable to the last rupee of $YP2$ and

assessed income, e.g., under a proportional income tax, $M1$ and $M2$ would be identical.

Both measures of price have been defined in terms of the hypothetical[10] marginal rates of tax relief rather than the average[11] rate of tax relief. The latter would be different from marginal rates of tax relief if the marginal rate of tax for assessed income is different from that for $YP2$, i.e., if $M1$ and $M2$ are different. Since it is the average rate of tax relief which is the effective rate of relief, we define the third measure of price in terms of the average rate of tax relief as follows.

(*iii*) The third measure of price ($P3$) is defined as 1 minus the tax saving on one rupee of charitable contributions estimated in terms of the average rate of tax relief ($A1$) on charitable deductions. This tax saving on a rupee of contributions is the product of the average rate of tax relief and the percentage of deduction allowed for contributions. Hence symbolically,

$$P3 = 1 - d.\ A1$$

The tax saving ($TR3$) on charitable deductions to a donor is the tax liability on income $YP2$ in excess of the tax liability on assessed income. If $T1$ and $T2$ denote the tax liabilities on income $YP2$ and assessed income, respectively, then the tax saving can be expressed as

$$TR3 = T1 - T2$$

and the average rate of tax relief can be expressed as

$$A1 = TR3/DCC$$

where, DCC = Deduction for charitable contributions.

If $M1$ and $M2$ are the same, then $P1$, $P2$ and $P3$ will be identical. However, since $M1$ and $M2$ may differ, it has to be determined which price measure is preferable. For our purpose, that measure of price should be chosen which influences the

decision on contributions.

While the measure $P3$ is based on the actual rate of tax relief, the measures $P1$ and $P2$ are based on the assumed rates of tax relief on deductions for contributions. Also, when the assumed rates of tax relief are the same as the actual rate of tax relief,[12] measures $P1$ and $P2$ cease to be different from $P3$. Therefore, the measure of price $P3$ seems to be better than both the other measures of price, $P1$ and $P2$.

Moreover, if $A1$ is taken to be the effective rate of tax relief on charitable deductions, then it can be shown that the measure of price $P1$ (defined in terms of $M1$) as well as $P2$ (defined in terms of $M2$) might underestimate the price of a unit of charity for some of the donor companies and overestimate it for the other companies. This is shown in an example given below.

Let us consider two widely held companies, $WC1$ and $WC2$, with incomes of Rs. 1,30,000 and Rs. 90,000, respectively. Let us further assume that each of the two companies avails itself of deductions of Rs. 20,000 for charitable contributions. The estimates of rates of tax relief $M1$, $M2$ and $A1$ to these donor companies on deductions for contributions, obtained with the tax structure applicable in the assessment year 1978-79 are presented in Table 4.1.

A comparison of the rates $M1$ and $A1$ for the companies $WC1$ and $WC2$ reveals that M1 is an overestimate of the effective (actual) rate of tax relief ($A1$) for company $WC1$ and an underestimate for company $WC2$. Therefore, $M1$ underestimates the price of a unit of charity for company $WC1$ and overestimates it for company $WC2$. Similarly, a comparison of the rates $M2$ and $A1$ reveals that $M2$ overestimates the price of a unit of charity for company $WC1$ and underestimates it for company $WC2$. Further, it should be noted that $M1$ overestimates the rate of tax relief for company $WC1$ and $M2$ underestimates it. Conversely, for company $WC2$, $M1$ underestimates the rate of tax relief and $M2$ overestimates it. So for the same donor, $M1$ might overestimate the price while $M2$ underestimates it and, conversely $M1$ might underestimate the price while $M2$ overestimates it.

Thus, it is clear that the marginal rate of tax $M1$ as well as $M2$ may underestimate the price of a unit of charity for some of the donors and may overestimate it for the other donors.

TABLE 4.1
Estimates of Marginal/Average Rates of Tax Relief*

	Widely held company	
	WC1	*WC2*
Assessed income (Rs. thousand)	130	90
Charitable deductions (Rs. thousand)	20	20
YP2 (Rs. thousand)	150	110
M1 (per cent)	84	47.25
M2 (per cent)	57.75	84
A1 (per cent)	70.88	65.63

Notes: *These estimates are obtained with the tax structure applicable in the assessment year 1978-79. For an easy understanding of the rates given in this table, see the rate schedule given in note 8 of Chapter 3 which is equivalent to the rate structure for this year.

YP2 = Assessed income + charitable deductions.

M1 = Marginal rate of tax applicable to the last rupee of assessed income of the donor.

M2 = Marginal rate of tax of the donor applicable to the last rupee of income assessable before deductions (*YP2*).

A1 = Average rate of tax relief to the donor on deductions for contributions.

Though, generally speaking, the companies are taxed at flat rates of income tax, the differences in *M1*, *M2* and *A1* could arise due to special provisions of taxation of income of widely held companies and closely held industrial companies. These special provisions alongwith flat rate of taxation can be translated into a rate schedule for the companies. (For example, see note 8 of Chapter 3) for such a rate schedule for widely held companies.

Even though the measure of price *P3* seems to be superior to the other measures, we have obtained the results of our model with each of the three alternative measures of price in order to have an idea of the extent to which the results would differ with respect to the use of alternative measures of price *P1* and *P2* used in the literature.

(*b*) *Measures of income.* In explaining charitable contribu-

tions, various measures of income defined in terms of either pre-tax or post-tax income have been used in the literature. Post-tax income has been defined in two ways : income minus the actual tax liability, and income minus the tax that would have been paid if no charitable contributions had been made. While the measure of income used in Reece (1979) is defined in terms of pre-tax income, the measures used in Taussig (1967) and Feldstein (1975*a*) are defined in terms of the above definitions of post-tax income respectively. The tax that would have been paid if no charitable contributions had been made, can be estimated as the sum of the actual tax liability and tax saving of the donor due to contributions. Since the tax saving depends on the rate of tax relief under consideration, such as $M1$, $M2$ and $A1$, the tax saving and hence the measure of income based on it can be defined in three different ways:

The four measures of income which have been used in the literature or are relevant in explaining charitable contributions are as follows:

(*i*) The first measure of income ($Y1$) is defined in terms of post-tax income. It is defined as adjusted gross income minus the actual tax liability of the donor. Hence symbolically,

$$Y1 = AGI - ATD$$

This measure of income is similar to the income variable used in Taussig (1967).

(*ii*) The second measure of income ($Y2$) is defined in terms of post-tax income if no charitable contributions had been made. It is defined as adjusted gross income minus the actual tax liability minus the tax saving ($TR2$) on deductions for contributions at the marginal rate of tax $M2$. Hence symbolically,

$$\begin{aligned} Y2 &= AGI - ATD - TR2 \\ &= Y1 - TR2 \end{aligned}$$

This measure of income is similar to the basic income variable used in Feldstein (1975*a*).

(*iii*) The third measure of income ($Y3$) is also defined in

terms of post-tax income if no charitable contributions had been made. It is defined as adjusted gross income minus the actual tax liability minus the tax saving ($TR3$) on deductions for contributions at the average rate of tax $A1$. Hence symbolically,

$$Y3 = AGI - ATD - TR3$$
$$= Y1 - TR3$$

(*iv*) The fourth measure of income ($Y4$) is defined in terms of pre-tax income. It is taken to be the adjusted gross income of the donor. Hence symbolically,

$$Y4 = AGI$$

This measure of income is similar to the measure used in Reece (1979).

The main issue in the choice of a measure of income is whether pre-tax income or post-tax income is the appropriate variable that influences the decision on contributions. For our purposes a measure of income defined in terms of pre-tax income seems to be preferable.[13] In the present study, the measure $Y4$ which is defined in terms of pre-tax income is proposed only as a test of robustness. All the other three measures of income are defined in terms of post-tax income in one sense or another.

The measure $Y1$ defined as adjusted gross income minus the actual tax liability, depends on the amount of contributions. The higher the contributions, the lower the actual tax liability and hence the higher the value of the measure of income $Y1$. This introduces a spurious positive correlation between the contributions and the measure of income, leading to a bias in the estimate of income effect on the contributions. The other two measure $Y2$ and $Y3$ do not depend on the amount of contributions and thus seem to be preferable to the measure $Y1$.

The measures $Y2$ and $Y3$ differ only with respect to the estimate of tax saving on deductions for charitable contributions. While in $Y2$ the tax saving is estimated at the marginal rate of tax relief $M2$, in $Y3$ it is estimated at the average rate of tax relief $A1$ on deductions for contributions. If $M2$ equals $A1$, the

measures $Y2$ and $Y3$ will be identical. It has been argued in section 3(*a*) that the average rate of tax relief $A1$ is preferable to the marginal rate of tax relief $M2$ in the estimation of tax saving on deductions for contributions. The measure $Y3$, thus, seems to be preferable to the measure $Y2$.

Even though, theoretically, the measure of income $Y3$ seems to be superior to the other three measures, we have obtained the results of our model with each of the four alternative measures of income in order to observe the extent to which the results would differ with respect to the use of alternative measures of income $Y1$, $Y2$ and $Y4$ used in the literature.

(*c*) *Choice of income and price combinations.* The four alternative measures of income and the three alternative measures of price defined earlier give rise to twelve income-price combinations:

$$(Y1, P1)\ (Y2, P1)\ (Y3, P1)\ (Y4, P1)$$
$$(Y1, P2)\ (Y2, P2)\ (Y3, P2)\ (Y4, P2)$$
$$(Y1, P3)\ (Y2, P3)\ (Y3, P3)\ (Y4, P3)$$

But all the twelve income-price combinations would not be appropriate for our purposes. Since the income variables $Y2$ and $Y3$ depend on the tax saving on deductions for contributions, the appropriate income-price combinations with these measures would be those in which the tax saving in both the income and price measures is estimated at the same rate. For such chosen income-price combinations, the net cost of contributions plus other disbursements of the donor would equal his corresponding post-tax income. Hence the budget constraint would be satisfied. If, in an income price combination, the tax saving is estimated at different rates in income and price variables, then the budget constraint would not be satisfied. The income-price combination with $Y2$ and $Y3$ which would satisfy the budget constraint are $(Y2, P2)$ and $(Y3, P3)$. Among the six income price combinations with $Y2$ and $Y3$, we have chosen the abovementioned two combinations. In addition, two more alternative combinations $(Y1, P1)$ and $(Y4, P3)$ are proposed to be used as a test of robustness in our exercise of evaluation of the tax incentive provisions. The combination $(Y1, P1)$ is chosen

because it is similar to the income and marginal tax rate combination used in Taussig (1967). The measures of income $Y4$ is independent of the rate of tax saving on deductions for contributions. It could form a combination with any of the three measures of price. However, we have chosen $P3$ with $Y4$, a measure of price which seems to be superior to $P1$ and $P2$. Among these four income-price combinations, ($Y3$, $P3$) seems to be theoretically superior to the other combinations as in this combination both the income and price measures are based on the effective rate of tax saving to the donor on deductions for contributions.

4. Functional Specifications of Charitable Contributions

A variety of functional specifications relating donor's charitable contributions (C) to income (Y) and price (P) can be investigated. We estimate the income effect and the price effect of the incentive provisions in terms of income and price elasticities of contributions. The functional specifications that are estimated in the present study are described below.

(*a*) *Constant income and price elasticities.* The constant income and price elasticities can be estimated in a double-log linear specification of charitable contributions as follows:

$$\text{Log } C = a1 + a2 \text{ Log } Y + a3 \text{ Log } P + u \qquad \ldots(4.1)$$

where $a1$, $a2$ and $a3$ are parameters to be estimated. The variable u is an unobservable residual. It reflects random disturbances and specification errors. The constant income and price elasticities of contributions are given by $a2$ and $a3$. One would expect a donor to make more charitable contributions with increase in his income and decrease in price of a unit of charity to him. Therefore, the expected sign for the income elasticity ($a2$) is positive and for the price elasticity ($a3$) is negative.

An implicit assumption in the constant elasticities specification is that a constant percentage change in the explanatory variable at any level causes a constant percentage change in the dependent variable, e.g., a change of $X1$ per cent in charitable contributions due to $X2$ per cent change in the price variable irrespective of whether the change is taking place at price level

P^* or P^{**}.

(*b*) *Variable income and price elasticities.* The assumption of constant income and price elasticities is clearly a simplification. In general, the elasticities may vary with the levels of income and price. If it is so, it would be appropriate to reflect these variations in the simulation of alternative tax policies. It is worthwhile therefore to examine whether the income and price elasticities do vary with the level of income and price. This can be done in the following manner.

First, we examine whether the income elasticity does vary with income, and the price elasticity does vary with price. One way to do this is to extend the constant elasticities specification of contributions (4.1) to include the inverse of income and price variables as follows:

$$\text{Log } C = a1 + a2 \text{ Log } Y + a3 \text{ Log } P + a4\, Y^{-1} + a5 P^{-1} + u \quad \ldots(4.2)$$

where $a1$, $a2$, $a3$, $a4$ and $a5$ are parameters to be estimated. This specification (4.2), allows the income elasticity[14] to vary asymptotically with income, and the price elasticity[15] to vary asymototically with price.

In the specification (4.2), positive (negative) value of $a4$ would mean that the income elasticity increases (decreases) with increases in income. The income elasticity will be positive at all levels of income only if $a2$ and $a4$ take positive and negative values, respectively, and such values of $a2$ and $a4$ would mean that the income elasticity decreases with increase in income. Conversely, if $a2$ and $a4$ take negative and positive values, respectively, the income elasticity will be negative at all levels of income, and such values of $a2$ and $a4$ would mean that the magnitude of income elasticity decreases with increase in income. Positive values of both $a2$ and $a4$ would mean that the income elasticity in the range of income in which it takes positive value, increases with increase in income, and negative values of both would mean that the magnitude of income elasticity in the range of income in which the elasticity takes negative value, increases with increase in income. The expected sign for $a2$ is positive and for $a4$ is negative.

Similarly, positive (negative) value of $a5$ would mean that the price elasticity increases (decreases) with increase in price.

The price elasticity will be negative at all levels of price only if $a3$ and $a5$ take negative and positive values, respectively, and such values of $a3$ and $a5$ would mean that the magnitude of price elasticity decreases with increase in price. Conversely, if $a3$ and $a5$ take positive and negative values, respectively, the price elasticity will be positive at all levels of price, and such values of $a3$ and $a5$ would mean that the price elasticity decreases with increase in price. Negative values of both $a3$ and $a5$ would mean that the magnitude of price elasticity in the price range in which the elasticity takes negative value, increases with increase in price, and positive values of both would mean that the price elasticity in the price range in which it takes positive value, increases with increase in price. The expected sign for $a3$ is negative and for $a5$ is positive.

If the inclusion of inverse of an explanatory variable gives rise to the problem of collinearity with its log value, then one might like to drop the inverse of this variable and examine whether the elasticity with respect to the other variable does vary with its level. For example, if inverse of price variable gives rise to the problem of collinearity with log of the price variable in specification (4.2), one can still proceed to examine whether the income elasticity does vary with level of income by using the following specification.

$$\text{Log } C = a1 + a2 \text{ Log } Y + a3 \text{ Log } P + a4 \text{ Log } Y^{-1} + u \qquad \ldots(4.3)$$

Second, we examine whether the income elasticity does vary with level of price and the price elasticity does vary with level of income. There are several ways to do this. The simplest way is to extend the constant elasticities specification of contributions (4.1) to include an interaction term, the product of the logarithm of price and the logarithm of income (Feldstein and Taylor, 1976) as follows:

$$\text{Log } C = a1 + a2 \text{ Log } Y + a3 \text{ Log } P + a4 (\text{Log } Y)(\text{Log } P) \qquad (4.4)$$

This specification (4.4) allows the price elasticity to vary continuously with income, with a constant relative sensitivity to income changes at all levels.[16] Also, it allows the income elasticity to vary monotonically and smoothly with price, with a

constant relative sensitivity to price changes.[17]

In the specification (4.4), positive (negative) value of $a4$ would mean that the income elasticity increases (decreases) with increase in price, and the price elasticity increases (decreases) with increase in income. The income elasticity will be increasing with decrease in price only if the values of $a2$ and $a4$ take opposite signs. If $a2$ and $a4$ take positive and negative values, respectively, it would mean that the income elasticity in a certain price range will be both positive and increasing with decrease in price. Conversely, if $a2$ and $a4$ take negative and positive values, respectively, it would mean that the income elasticity in a certain price range will be both negative and increasing with decrease in price. The price elasticity will be both negative and increasing with increase in income at all levels of income only if both $a3$ and $a4$ take negative values. Conversely, if both $a3$ and $a4$ take positive values, it would mean that the price elasticity takes positive value and it increases with increase in income. Positive and negative values of $a3$ and $a4$, respectively would mean that the price elasticity takes positive value and it increases with increase in income. Positive and negative values of $a3$ and $a4$, respectively, would mean that the price elasticity in the income range in which it takes negative value, increases with increase in income. On the other hand, negative and positive values of $a3$ and $a4$, respectively, would mean that the price elasticity in the income range in which it takes negative value, decreases with increase in income.

(*c*) *Separate income and price elasticities by income class.* Though the specifications (4.2) and (4.4) described earlier allow the income elasticity as well as the price elasticity to vary with either income or price, they impose particular parametric forms on the relations of the elasticities with income or price. While the specification (4.2) imposes particular parametric forms on the relations between income elasticity and income, and between price elasticity and price, the specification (4.4) imposes particular parametric forms on the relations between income elasticity and price, and between price elasticity and income.

A more general specification of the contributions should

impose on particular parametric form on the relations of the elasticities with income or price. Such unresticted estimates of income and price elasticities can be obtained by estimating the constant elasticities specification of contributions (4.1) separately for different income classes.[18] This would allow both the income and price elasticities to vary between different income classes and imposes no parametric form on the relations of elasticities with income. Any variation in the income and price elasticities between different income classes is important in the formulation of policies which stimulate charitable contributions and it must be reflected in the simulations of alternative schemes of the tax incentive.

(*d*) *Regional characteristics and specification of charitable contributions.* Besides the income and price variables, regional characteristics might influence decision on contributions of the companies located in the respective jurisdictions. Different regions may simply be different States and Union Territories. The regional characteristics include social and political set-up, and the orientation towards activities that are supposed to be encouraged through charitable organisations. The role of social and political pressures in obtaining charitable contributions can hardly be overlooked. The State governments with different ideologies and temper can be expected to have varying effects on the decision on contributions of the assessees located in their jurisdiction.

The exclusion of social and political factors from our functional specifications of contributions might give rise to bias in the estimates of income and price elasticities. The extent of bias would depend on the degree of association of the variables included in the specification with the excluded variabies. One might expect that the higher the income of a company and the lower the price of a unit of contribution, the more effcctive could be the social and political factors in enhancing charitable contributions. Therefore, exclusion of social and political factors is likely to lead to overestimates of both the income and price elasticities. If these factors were inoperative or ineffective in actual practice, inclusion of these factors in the functional specification of contributions might lead to underestimates of both the income and price elasticities. However, due to lack of satisfactory quantitative proxy variables for such quantitative

factors, it has not been possible to include these factors in our functional specifications of charitable contributions for the estimation of income and price effects on contributions.

5. Simulations of Alternative Tax Treatments of Charitable Contributions

Having obtained the appropriate estimates of income and price elasticities, the next step in the evaluation of the incentive provisions as stimulus to contributions would be to simulate the effects of alternative tax treatments of charitable contributions. The effect of a proposed change in the concerned tax incentive provisions on the tax revenue forgone by the exchequer, charitable contributions and the efficiency of the tax incentive can be estimated through simulation of the proposed change. In this study, simulation is used to estimate the effects of alternative schemes of tax credit and abolition of the incentive.

The contributions of a donor company after a change in the income tax law that alters the price of a unit of charity or income of the donor can be estimated as follows. Let the price of charity faced by the *i*th donor under the income tax law and after the proposed change in the income tax low be Pi and $\bar{P}i$, respectively. Further, let Ci and $\bar{C}i$ denote charitable contributions of the *i*th donor under the income tax law and after the proposed change respectively. *Ceteris paribus*, for a change in the income tax law that alters only the price of a unit of charity to the donor and not income, the change in charitable contributions of the *i*th donor is given by the following equation (Feldstein, 1976):

$$\text{Log } \bar{C}i - \text{Log } Ci = \bar{a}3 \ (\text{Log } \bar{P}i - \text{Log } Pi \qquad \ldots(4.5)$$

where $a3$ is the estimate of price elasticity. Since under the current income tax law Pi and Ci are known, the estimate of contributions ($\bar{C}i$) after the proposed change in the income tax law can be obtained from equation (4.5). If the change in the income tax law alters both the price of a unit of charity and the income of the donor, the change in contributions of the *i*th donor is given by the following equation.

$$\text{Log } \bar{C}i - \text{Log } Ci = \bar{a}2\ (\text{Log } \bar{Y}i - \text{Log } Yi) + \bar{a}3\ (\text{Log } \bar{P}i - \text{Log } Pi) \quad \ldots(4.6)$$

where Yi and $\bar{Y}i$ denote income of the ith donor under the income tax law and after the proposed change respectively. $\bar{a}2$ and $\bar{a}3$ are the estimates of income and price elasticities respectively.

The total amounts of contributions $C1$ and $C2$, respectively, under the income tax law and after the proposed change in the income tax law, can be calculated as follows:

$$C1 = \sum_{i=1}^{N} Ci \quad \ldots(4.7)$$

$$C2 = \sum_{i=1}^{N} \bar{C}i \quad \ldots(4.8)$$

where N is the number of donor companies. The change in contributions due to the change in the income tax law is given by $(C2 - C1)$.

Due to contributions, the estimates of tax saving to the donors or tax revenue forgone by the exchequer under the income tax law and after the proposed change $TS1$ and $TS2$, respectively, can be obtained as follows:

$$TS1 = \sum_{i=1}^{N} Ci\ (1 - Pi) \quad \ldots(4.9)$$

$$TS2 = \sum_{i=1}^{N} Ci\ (1 - \bar{P}i) \quad \ldots(4.10)$$

In order to evaluate the alternative schemes of tax incentive as stimulus to contributions, it is necessary to isolate the contributions attributable purely to the tax incentive provisions from those which would have been made even in the absence of the tax incentive. Since in the absence of the tax incentive for contributions the price of a unit of charity would be unity for all donors, the contributions that would have been made in the absence of the tax incentive can be estimated from equation (4.5) by assigning value one to $\bar{P}i$. The aggregate of so estimated contributions over all the donor companies would give the

amount of contributions which would have been made even in the absence of the tax incentive. The actual contributions minus the estimate of contributions thus obtained gives the estimate of contributions attributable to the tax incentive. Charitable contributions attributable to the tax incentive expressed as the ratio of the tax revenue forgone ($TS1$) by the exchequer gives an estimate of efficiency of the tax incentive. Similarly, the estimates of charitable contributions attributable to the tax incentive, tax revenue forgone by the exchequer, and efficiency of the tax incentive can be obtained under the alternative tax treatments of contributions.

Notes and References

1. However, it would be argued later that an average rate rather than the marginal rate of tax relief can be used to derive tax saving and, further, it would be argued that in some sense the former is better.
2. The efficiency of a scheme of tax incentive as stimulus to charitable contributions can be defined as the contributions attributable purely to the tax incentive as a percentage of the tax revenue forgone by the exchequer due to the tax incentive.
3. For a mathematical derivation of these results, see Annexure II
4. For simplicity, it is assumed that the costs of administration of a subsidy through the tax incentive provisions and through direct grant do not differ. The results have to be qualified if it is found that these two costs differ significantly.
5. As advocated by Haig (1921), p. 7 and Simons (1938), p. 50.
6. Symbolically, AGI=GI−LSO.
7. For example, see Taussig (1967), Feldstein (1975*a*), Feldstein and Taylor (1976), and Reece (1979).
8. *Ibid.*
9. While $M1$ can be interpreted as marginal rate of tax relief on deductions for contributions, the component $d.M1$ gives the marginal rate of tax relief on charitable contributions of a donor company.
10. We call these rates hypothetical, because it is assumed that tax should have been paid at the same marginal rate of tax on deductions for contributions if these were disallowed. While this assumption will be true if $M1$ and $M2$ are equal, it will not be true if these rates are different. The different values of $M1$ and $M2$ would mean that a part of deductions should have been taxed at one rate and another part at a different rate if these deductions were disallowed, and hence the tax relief on a part of deductions is at one rate and on another part is at a different rate. Therefore, it would

seem to be appropriate to use the average rate of tax relief on deductions for contributions rather than an assumed marginal rate of relief. However, when $M1$ and $M2$ are equal, the average rate of tax relief would cease to be different from $M1$ and $M2$. The extent to which the marginal and average rates of tax relief could differ will be discussed later.

11. The average rate of tax relief ($A1$) to a donor company may be defined as the ratio of tax liability on income $YP2$ (assessed income plus charitable deductions) in excess of tax liability on assessed income to deductions for contributions.
12. The actual and assumed rates of tax relief will be identical when $M1$ and $M2$ are equal.
13. It has been argued, however, in Reece (1979) that pre-tax income rather than post-tax income defined by $Y2$ or $Y3$ seems to be appropriate in explaining the contributions. He argues that charitable contributions plus other disbursements of the donor may exceed income after tax so defined, making the budget constraint endogenous. It is important to note in this context that the net cost of charitable contributions is less than the gross contributions due to the resultant tax saving. Therefore, in order to see whether the budget constraint is satisfied, it is the net cost of contributions that should be taken into consideration rather than the gross contributions. If instead of the gross contributions the net cost of contributions is taken into consideration, the budget constraint is satisfied.
14. The income elasticity is given by $e(y)=a2-a4\ Y^{-1}$.
15. The price elasticity is given by $e(p)=a3-a5\ P^{-1}$.
16. The price elasticity is given by $e(p)=a3+a4$ Log Y.
17. The income elasticity is given by $e(y)=a2+a4$ Log P.
18. Such unrestricted estimates of income and price elasticities can also be obtained by estimating the constant elasticities specification of contributions (4.1) separately for different price classes. This would allow both the income and price elasticities to vary between different price classes and imposes no parametric form on the relations of elasticities with price. However, the variation in our price variable is too small to attempt estimation of these elasticities by price class, in the present study.

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.

6. SUMMARY AND RECOMMENDATIONS

1. **Forms of the Incentive in Different Countries**

IN a number of countries, the activities of charitable organisations are subsidised by the government through a tax incentive. Forms of the tax incentive for charitable contributions differ among countries. Australia, Greece, Norway and the United Kingdom give a fully deductible tax allowance for the contributions. The incentive in the same form but subject to a ceiling in absolute amount or in terms of a fixed proportion of taxable income of the contributor is given in Belgium, Canada, Denmark, France, Germany, Portugal, Turkey and the United States of America (USA). A partially deductible tax allowance subject to a ceiling is offered as incentive in Japan and the Netherlands. In India, both fully and partially deductible tax allowances are offered, depending on the character of the beneficiary charitable organisation.

The incentive in the form of a fully deductible tax credit subject to a ceiling is given in New Zealand, and the form of the incentive in Spain can be characterised as partially deductible tax credit.

The benefit of the tax incentive in some of the above-mentioned countries, however, is subject to certain limitations. For example, in Belgium, Denmark and India, no tax allowance is given unless the contributions exceed a fixed lower limit. Similarly, some of these countries give tax allowance only in respect of the amount of contributions in excess of a fixed amount (e.g., Japan) or in excess of a fixed proportion of taxable income (e.g., the Netherlands).

2. **Objectives of the Study**

In none of the countries other than the USA adequate empirical work has been adduced to justify modifications, and retention or deletion of the tax incentive for charitable contri-

butions. This study is a step towards filling this gap. It analyses empirically the effects of the tax incentive in a developing country, India.

In India, as in some other countries, the tax incentive to stimulate charitable contributions has been liberalised and extended to contributions to various charitable organisations, over time. These decisions have been based mainly on the belief that the tax incentive leads to a substantial increase in the contributions in relation to the loss in tax revenue rather than on proven facts. Thus the main objectives of the current study are:

(*i*) to provide empirical evidence of the effects of the tax incentive on the volume of charitable contributions and on the tax yield;

(*ii*) to provide an estimate of the efficiency of the incentive; and

(*iii*) to evaluate stimulative effects of the alternative scheme of providing subsidy to the charitable organisations such as direct subsidy and schemes of deduction (tax allowance) and tax credit for charitable contributions.

3. Review of Earlier Studies

There have been a number of attempts in the USA to estimate the effects of the tax incentive for charitable contribution on the volume of such contributions and loss in tax revenue to the exchequer. A variety of data sets based on cross-section and/or time series incorporating low income and/or high income donors have been used. These studies include those of Taussig (1967), Schwartz (1966, 1968 and 1970), Feldstein (1975a, 1975b), Feldstein and Taylor 1975, 1976), Feldstein and Clotfelter (1976), Boskin and Feldstein (1977), Dye (1977), Fisher (1977), Reece (1979), and Clotfelter (1980). All these studies excepting Schwartz (1968) have focused on the contributions by individuals while Schwartz (1968) focused on the contributions by corporate entities (companies). All these studies show that the tax incentive in the USA has led to an increase in charitable contributions. These studies except those by Tausigs (1967) and

Schwartz (1970) also reveal that the charitable organisations receive more than what is lost in tax revenue by the exchequer due to the incentive, implying that the incentive has been efficient.

4. Scope of the Present Study

The scope of the current study is limited to companies. This however covers a major part of the total charitable contributions on which the deductions have been allowed. In India, unlike in the USA, companies played a relatively greater role in supporting the activities of charitable organisations, and availed themselves of most of the tax relief allowed in respect of contributions to such organisations. While the donor companies constituted less than 30 per cent of the total number of those donors who availed of the tax relief for charitable contributions, these companies accounted for more than 75 per cent of the total deductions (tax allowances) and more than 85 per cent of the tax relief allowed. The average rate of tax relief, and per donor deductions and the tax relief are also found to be substantially higher for companies than for non-company taxpayers.

5. Provisions of the Tax Incentive

In India, the basic structure of the tax incentive for charitable contributions has remained unchanged since the mid-seventies. The scope of the incentive has however been widened over time. This has been done by bringing in an increasing number of charitable organisations into the purview of the incentive.

A donor is allowed a deduction in computing his taxable income, equal to 50 per cent of his contributions to approved charitable organisations. However, for contributions to the Prime Minister's National Relief Fund and to organisations involved in promoting family planning, a deduction of 100 per cent of the contributions is allowed. Only contributions in money and not of property, etc. quality for the incentive. Further, if the amount of contributions is less than Rs 250 then the deduction for contributions is denied.

For contributions to some of the charitable organisations, the amount that qualifies for the tax incentive is subject to a

ceiling. The ceiling is calculated as a minimum of 10 per cent of gross total income of the donor, and Rs 500,000.

6. **Tax Structure of Corporate Income Tax**

The basic tax rate structure of the corporate income tax in India has remained stable for a fairly long time. During the assessment years 1974-75 to 1983-84, the tax rate schedules applicable to different categories of companies have remained unchanged, though the surcharge on income tax has varied from 0 to 7.5 per cent. The rate of surcharge on income tax was 5 per cent during 1974-75 to 1978-79, 5 to 7.5 per cent during 1980-81, 2.5 per cent in 1982-83 and nil for the assessment years 1979-80, 1981-82 and 1983-84.

The tax rates applicable to a company depend on the category of the company. For foreign companies, different rates are applicable to income from different sources. During 1974-75 to 1983-84, widely held and closely held industrial companies were taxed under the step system. For each of the two categories of companies, two tax rates were applicable depending on the income level. In effect, the two-rate step system was equivalent to a rate schedule of three rates for different income brackets. Recently, the step system was replaced by a single tax rate. The range of variation in the corporate tax rates has been higher during 1974-75 to 1983-84 than that in the later period. It was 45-80 per cent during 1974-75 to 1983-84 which has been reduced to 50-65 per cent in the subsequent years.

7. **The Methodology**

The demand for charitable contributions is taken as function of income and price of charity.

The effect of the alternative tax incentives on the volume of charitable contributions and on the tax yield are estimated in terms of income and price elasticities of such contributions by using plausible specifications of demand for the contributions.

Estimates of efficiency of the alternative tax incentives for charitable contributions are obtained through simulation exercises based on the estimates of income and price elasticities of the contributions.

A price elasticity of —1 would mean that the amount of charitable contributions attributable to the incentive equals the loss in the tax revenue to the exchequer due to the incentive, and a price elasticity of less than —1 (greater than —1) would mean that the charitable contributions due to the tax incentive exceed (fall short of) the loss in tax revenue to the exchequer.

8. The Data

The basic corporate tax rate applicable to different categories of companies had remained unchanged during the assessment years 1974-75 to 1983-84, and variation in rates of taxation between and within the different categories of companies has been greater than that in the later period. So it was thought appropriate to use data on a cross-section of companies relating to a year falling in the period 1974-75 to 1983-84. The latest year in this period for which required data could be compiled is 1978-79.

Regarding the set of data on cross-section of donor companies, we have been able to compile information on 564 donor companies from those companies for whom the assessments were completed in the year 1978-79. These 564 companies account for 26.7 per cent of the donor companies and 21.5 per cent of the deduction availed of by all the donor companies in the year 1978-79.

9. Main Findings and Policy Imperatives

The main findings of the study can be summarised as follows:

(*i*) The scheme of deductions for charitable contributions increased the quantum of such contributions substantially. In the absence of the incentive provisions, the contributions by the companies would have been lower by about 64 per cent of the actual contribution. In the absence of the incentive the contributions in the year 1978-79 would not have been more than Rs 484 lakh as against Rs 1338 lakh with the incentive and in the year 1985-86 these would have been less than Rs 900 lakh as against Rs 2476 lakh with the tax incentive.

(*ii*) The amount of contributions attributable to the scheme of deductions for contributions exceeds the tax revenue forgone by the exchequer due to the incentive. For a one-rupee sacrifice in tax revenue by the Government due to the tax incentive, donations to charitable organisations increased by more than two rupees.

(*iii*) The stimulative effect on charitable contributions that has been achieved through the scheme of deductions for contributions could alternatively be achieved through the scheme of tax credit of 30 per cent of the contributions without any sacrifice in efficiency of the tax incentive. Since a scheme of tax credit, unlike a scheme of deductions, gives equal price incentive to all the companies to make charitable contributions, as under it the price of a unit of charity is the same for all companies, it therefore seems to be preferable to a scheme of deductions.

(*iv*) There seems to be a trade-off between the volume of charitable contributions that can be achieved through a suitably designed scheme of the tax incentive, considered in this study; it has been found that the scheme which results in a higher amount of charitable contributions has the lower efficiency.

(*v*) The amount of charitable contributions under the scheme of tax credit of 40 per cent for contributions could even be more than two times as much as under the scheme of tax credit of 30 per cent, with a little difference in efficiency of the tax incentive under these schemes.

(*vi*) If it is desirable to stimulate the activities of charitable organisations through a subsidy, it is appropriate to do so through suitably designed schemes of deductions or tax credit for contributions rather than through a scheme of block grant to charitable organisations.

(*vii*) In explaining charitable contributions of donor companies, the measure of income defined in terms of post-tax income rather than pre-tax income seems to be the correct one. To the extent the decision on contributions depends on income, the relevant income variable is post-tax income. The argument put forward

by Reece (1979) in favour of pre-tax income (i.e., gross income defined somehow) as an appropriate variable in explaining the contributions is a misconception.

10. Limitations of the Study

Various important aspects of the tax incentive under discussion could not be analysed due to non-availability of requisite data, such as, identifying the organisations that benefit most from the current tax treatment of contributions and also those organisations which would suffer most from abolition of the relevant tax provisions. In order to facilitate a more meaningful evaluation of the tax incentive, improvements in the data base are necessary. The suggestions for improving the data base are discussed in Section 11.

The findings of the study about the income and price effects of the tax incentive are based on the usual two assumptions: (*i*) the cost of administration of a subsidy as stimulus to charitable contributions is the same whether the subsidy is given through the tax incentives or directly through a scheme of block grant, and (*ii*) the degree of misuse of the funds of charity and use of undesirable techniques to mobilise more resources by various charitable organisations is also the same whether the subsidy is given through the tax incentive or through a block grant. If these assumptions turn out to be untrue, then our findings need to be qualified.

With regard to the cost of administration, the main finding that it is appropriate to stimulate the activities of charitable organisations through a tax incentive rather than through a block grant will be at stake only if A exceeds B: Where A is the cost of administration of subsidy for charitable contributions through a tax incentive in excess of the cost of administration of the subsidy through a block grant, and B is the amount of charitable contributions attributable to the tax incentive in excess of the tax revenue forgone by the exchequer due to the tax incentive.

The issue of misuse of the funds of charity perhaps is only remotely connected with the mode of subsidy, whereas the extent to which the donor companies indulge in tax evasion through misuse of the tax incentive provisions is an issue important enough to require a separate study.

11. **Suggestions for Improving the Data Base**

The suggestions for improving the data base can be divided into three broad categories: first, those relating to changes in the assessment forms[1] to provide for collection of requisite information; second, relating to the system of collection of information to ensure complete coverage of the population under consideration; third, relating to the compilation and publication of information at a reasonable level of disaggregation by status and income classes of the taxpayers.

(*a*) *Changes in the ITNS-150C/150E/assessment forms.* Provisions should be made in the ITNS-150C/150E assessment form to collect the following information on income tax payers:

(*i*) Whether a closely held company is industrial or other than industrial. (This would require a change only in the ITNS-150E assessment fort.)

(*ii*) The break-up of charitable contributions or deductions for contributions according to the types of recipient charitable organisations. For this purpose, charitable organisations can be divided into four broad categories according to the differences in the provisions for deductions. The first category (say, category A) should consist of :

(*a*) the National Defence Fund;
(*b*) the Jawaharlal Nehru Memorial Fund;
(*c*) the Prime Minister's Drought Relief Fund;
(*d*) the National Children's Relief Fund, and
(*e*) the Indira Gandhi Memorial Trust.

The Prime Minister's National Relief Fund should form the second category (say, category B). Also, with effect from April 1, 1989, this category should include the rural development fund set up and notified by the Central Government, and a trust or institution of national importance which has as its main objective the undertaking of scientific research or carrying out of any rural development programme or any programme of conservation of natural resources, etc. The third category (say, category C) should include all the other appro-

ved charitable organisations except those involved in promoting family planning which should constitute the fourth category (say, category D).

(*b*) *Strengthening the system of information collection.* Upto the assessment year 1983-84, the information on taxpayers was compiled on the basis of assessments completed in a financial year. It is well known[2] by now that the assessment forms sent to the statistician, Directorate of Inspection (Research, Statistics and Public Relations) did not cover all the assessments completed in a financial year. Further, while compiling the requisite information from the available assessment forms, it has come to our notice that adequate care had not been taken to state requisite details in these forms, particularly those concerning rebates and allowances such as depreciation allowances, development rebate and deduction for expenditure on scientific research. As a result, the final statistics compiled from these assessment forms give a distorted picture of the real phenomenon. From the assessment year 1984-85, information on taxpayers is compiled on the basis of returned income relating to an assessment year instead of assessed income relating to the assessment completed in a year. The mode of compilation of information continues to be the assessment forms. The number of assessment forms based on even the returned income, received by the statistician, Directorate of Inspection, continues to be below the expected number. This necessitates strengthening of the system of information collection.

The income tax offices should be instructed and equipped adequately to provide all the detailed information in the ITNS-150C/150E assessment forms and forward these to the statistician within a reasonable time span. The personnel entrusted with this responsibility should be adequately trained to understand and appreciate the importance of these data. This will lead to a substantial improvement in the quality of all those published data that are compiled from these assessment forms.

(*c*) *Compilation and publication of data.* The data on charitable contributions or deductions for contributions should be compiled and published by status and income classes of assessees, separately for the four categories of charitable organisations described above in section 11a(*ii*). These data

TABLE 6.1
Description of Presentation of Data on Donor Companies

Gross income class (*Rs '000*)	*Number of Donor companies*	*Gross income* (*Rs '000*)	*Loss set-off* (*Rs '000*)	*Assessed income* (*Rs '000*)	*Charitable contributions/deductions*				
					Total	*To organisations of category*			
						A	*B*	*C*	*D*
					(*Rs*)	(*Rs*)	(*Rs*)	(*Rs*)	(*Rs*)
	(*1*)	(*2*)	(*3*)	(*4*)	(*5*)	(*6*)	(*7*)	(*8*)	(*9*)
—20									
20—50									
50—100									
100—200									
200—300									
300—400									
400—500									
500 1000									
Above 1000									
TOTAL									

Note : The four categories (A, B, C and D) of charitable organisations are as described in Section 11a(*ii*).

on each of the four categories of companies described above may be presented as shown in Table 6.1.

Notes and References

1. These are statistical summary sheets (ITNS-150C/150E) which are filed by the various income tax offices in the field from the particulars contained in the income-tax returns and annexures.
2. For details of the shortcoming of *All India Income Tax Statistics*, see Government of India (1976); Gupta, Anupam and Aggarwal, Pawan K. (1982), and Bagchi, A. and Aggarwal, Pawan K. (1983).

ANNEXURE I

PROVISIONS OF DEDUCTIONS EOR CHARITABLE CONTRIBUTIONS

A deduction in computing taxable income of a taxpayer is allowed in respect of donations to certain funds and charitable institutions, under Section 80 G of the Income-tax Act 1961. The contents of Section 80 G are as follows:

(1) In computing the total income of an assessee, there shall be deducted, in accordance with and subject to the provisions of this section:

[1][(*i*) in a case where the aggregate of the sums specified in sub-section (2) includes any sum or sums of the nature specified in[2] [*sub-clause* (iiia) *or in*] sub-clause (*vii*) of clause (*a*) thereof, an amount equal to the whole of the sum or, as the case may be, sums of such nature *plus* fifty per cent of the balance of such aggregate; and

(*ii*) in any other case, an amount equal to fifty per cent of the aggregate of the sums specified in sub-section 2.]

(2) The sums referred to in sub-section (1) shall be the following, namely:

(*a*) any sums paid by the assessee in the previous year as donations to:

(*i*) The National Defence Fund set up by the Central Government; or

(*ii*) the Jawaharlal Nehru Memorial Fund referred to in the Deed of Declaration of Trust adopted by the National Committee at its meeting held on the 17th day of August, 1964; or

(*iii*) the Prime Minister's Drought Relief Fund; or

[3](*iiia*) the Prime Minister's National Relief Fund; or

[4](*iiib*) the National Children's Fund; or

[5](*iiic*) the Indira Gandhi Memorial Trust, the deed of declaration in respect whereof was registered at New Delhi on the 21st day of February, 1985; or]

The following sub-clauses (*iiid*) and (*iiie*) shall be inserted by the Direct Tax Laws (Amendment) Act, 1987, w.e.f. 1-4-1989:

(*iiid*) the rural development fund set up and notified by the Central Government in this behalf; or

(*iiie*) a trust or institution of national importance referred to in clause (*d*) of sub-section 1 of section 80F which has as its main object the undertaking of scientific research or carrying out of any rural development programme or any programme of conservation of natural resources or of afforestation of wasteland; or

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(*iv*) any other fund or any institution to which this section applies; or

(*v*) the Government or any local authority, to be utilised for any charitable purpose[6] [other than the purpose of promoting family planning; or]

(*vi*) any authority referred to in clause (20A) of section 10; or

(*vii*) the Government or to any such local authority, institution or association as may be approved in this behalf by the Central Government, to be utilised for the purpose of promoting family planning;]

[9](*b*) any sums paid by the assessee in the previous year as donations for the renovation or repair of any temple, mosque, gurdwara, church or other place as is notified by the Central Government in the Official Gazette to be of historic, archaeological or artistic importance or to be a place of public worship or renown throughout any State or States.

(3) No deduction shall be allowed under sub-section (1) if the aggregate of the sums referred to in sub-section (2) is less

than two hundred and fifty rupees.

[10][(4) Where the aggregate of the sums referred to in sub-clauses (*iv*), (*v*), (*vi*) and (*vii*) of clause (*a*) and in clause (*b*) of sub-section (2) exceeds the smaller of the following amounts, that is to say—

(*i*) ten per cent of the gross total income as reduced by any portion thereof on which income-tax is not payable under any provision of this Act and by any amount in respect of which the assessee is entitled to a deduction under any other provision of this Chapter, and

(*ii*) five hundred thousand rupees.]

then the amount by which such aggregate exceeds such smaller amount shall be ignored for the purpose of computing the aggregate of the sums in respect of which deduction is to be allowed under sub-section (1).

The following new sub-section (4) shall be substituted for the existing sub-section by the Direct Tax Laws (Amendment) Act, 1987, w.e.f. 1-4-1989.

(4) When the aggregate of the sums referred to in sub-clause (*iv*), (*v*), (*vi*) and (*vii*) of clause (*a*) and in clause (*b*) of sub-section (2) exceeds ten per cent of the gross total income (as reduced by any portion thereof on which income-tax is not payable under any provision of this Act and by any amount in respect of which the assessee is entitled to a deduction under any other provision of this Chapter), then the amount in excess of ten per cent of the gross total income shall be ignored for the purpose of computing the aggregate of the sums in respect of which deduction is to be allowed under sub-section (1).

(5) This section applies to donations to any institution or fund referred to in sub-clause (*iv*) of clause (*a*) of sub-section (2) only if it is established in India for a charitable purpose and if it fulfils the following conditions, namely,:

(*i*) where the institution or fund derives any income, such income would not be liable to inclusion in its total income under the provisions of sections (11) and 12 or clause (22)[11] [or clause (22A)][12] [or clause (23)][13] [or

clause (23AA)][14] [or clause (23C) of section 10:

[15][Provided that where an institution or fund derives any income, being profits and gains of business, the condition that such income would not be liable to inclusion in its total income under the provision of section 11 shall not apply in relation to such income, if

(*a*) the institution or fund maintains separate books of account in respect of such business;

(*b*) the domations made to the institution or fund are not used by it, directly or indirectly, for the purposes of such business; and

(*c*) the institution or fund issues to a person making the donation a certificate to the effect that it maintains separate books of account in respect of such business and that the donations received by it will not be used, directly or indirectly, for the purposes of such business;]

The following new clause (*i*) shall be substituted for the existing clause by the Direct Tax Laws (Amendment) Act, 1987, w.e.f. 1-4-1989:

(*i*) where the institution or fund derives any income, such income would not be liable to be included in its total income under the provisions of clause (22) or clause (22A) or clause (23AA) or clause (23C) of section 10, or the trust or institution other than the trust or institution referred to in sub-clause (*iiie*) of clause (*a*) of sub-section (2)] is eligible for the deduction under section 80F:

(*ii*) the instrument under which the institution or fund is constituted does not, or the rules governing the institution or fund do not, contain any provision for the transfer or application at any time of the whole or any part of the income or assets of the institution or fund for any purpose other than a charitable purpose;

(*iii*) the institution or fund is not expressed to be for the benefit of any particular reiigious community or caste;

(*iv*) the institution or fund maintains regular account of its receipts and expenditure; and

(*v*) the institution or fund is either constituted as a public

charitable trust or is registered under the Societies Registration Act, 1860 (21 of 1860) or under any law corresponding to that Act in force in any part of India or under section 25 of the Companies Act, 1956 (1 of 1956), or is a University established by law, or is any other educational institution recognised by the Government or by a University established by law, or affiliated to any University established by law,[16] [*or is an institution approved by the Central Government for the purposes of clause (23) of section 10*] or is an institution financed wholly or in part by the Government or a local authority.

[17]5A. Where a deduction under this section is claimed and allowed for any assessment year in respect of any sum specified in sub-section (2), the sum in respect of which deduction is so allowed shall not qualify for deduction under any other provision of this Act for the same or any other assessment year.]

Explanation 1: An institution or fund established for the benefit of Scheduled Castes, backward classes, Scheduled Tribes or of women and children shall not be deemed to be an institution or fund expressed to be for the benefit of a religious community or caste within the meaning of clause (*iii*) of sub-section (5).

[18]*Explanation 2*: For the removal of doubts, it is hereby declared that a deduction to which the assessee is entitled in respect of any donation made to an institution or fund to which sub-section (5) applies shall not be denied merely on either or both of the following grounds, namely:

(*i*) that, subsequent to the donation, any part of the institution or fund has become chargeable to tax due to non-compliance with any of the provisions of section 11[19] [section 12 or section 12A];

(*ii*) that, under clause (*c*) of sub-section (1) of section 13, the exemption under section 11[20] [or section 12] is denied to the institution or fund in relation to any income arising to it from any investment referred to in clause (*b*) or sub-section (2) of section 13 where the aggregate of the funds invested by it in a concern

referred to in the said clause (*b*) does not exceed five per cent of the capital of that concern.

The following new clauses (*i*) and (*ii*) shall be substituted for the existing clauses by the Direct Tax Laws (Amendment) Act, 1987 w.e.f. 1-4-1989:

(*i*) that, subsequent to the donation, the trust or institution has become ineligible for the deduction under section 80F due to non-compliance with any of the provisions of that section.

(*ii*) that the deduction under section 80F is denied in relation to the application of any income arising to it from any investment referred to in clause (*b*) of sub-section (4) of that section where the aggregate of the funds invested by it in a concern referred to in the said clause (*b*) does not exceed five per cent of the capital of that concern:

[*Explanation 3*: In this section, "charitable purpose" does not include any purpose the whole or substantially the whole of which is of a religious nature.

[21][*Explanation 4*: For the purposes of this section, an association approved by the Central Government for the purposes of clause (23) of section 10 shall also be deemed to be an institution, and every association or institution approved by the Central Government for the purposes of the said clause shall be deemed to be an institution established in India for a charitable purpose.

[22][*Explanation 5*: For the removal of doubt, it is hereby declared that no deduction shall be allowed under this section in respect of any donation unless such donation is of a sum of money.]

Notes and References

1. Substituted for the following clause (*i*) by the Finance Act, 1985, w.e.f. 1-4 1986:

"(*ii*) in a case where the aggregate of the sums specified in sub-section (2) includes any sum specified in sub-clause (*vii*) of clause (*a*) thereof, an amount equal to the whole of such sum plus fifty per cent of the balance of such aggregate; and"

2. "Sub-clause (*iiia*) or sub-clause (*iiid*) or sub-clause (*iiie*) or" shall be substituted for "sub-clause (*iiia*) or in" by the Direct Tax Laws (Amendment) Act, 1987, w e.f. 1-4-1989.
3. Inserted by the Income-tax Amendment Act, 1976, with retrospective effect from 9-9-1975.
4. Inserted by the Finance Act, 1982, w.e.f. 1-4-1983.
5. Inserted by the Finance Act, 1985, w.e.f. 1-4-1985.
6. Inserted by the Finance Act, 1976, w e.f. 1-4-1977.
7. Inserted by the Finance Act, 1976. w.e.f. 1-4-1977.
8. For notified institution/association under this sub-clause, refer Taxmann's Direct Taxes Circulars, Vol. 1, 1985 edn., p. 515.
9. For complete list of places of public worship, etc.. notified under this clause, refer Taxman's Direct Taxes Circulars, Vol. 1, 1985 edn., p. 515 and Taxman's Yearly Tax Digest and Reference, 1986 edn., p. 4 101/1987 edn., p. 384/1988 edn., p. 5.22.
10. Substituted by the Finance (No. 2) Act, 1980, w.e.f. 1-4-1981.
11. Inserted by the Finance Act, 1970, w.e.f. 1-4-1970.
12. Inserted by the Finance Act, 1973, w.e.f. 1-4-1974.
13. Inserted by the Finance Act, 1987, w.e.f. 1-4-1988.
14. Inserted by the Taxation Laws (Amendment) Act, 1975, w.e.f. 1-4-1976.
15. Inserted by the Finance Act, 1983, w.e.f. 1-4-1984.
16. Inserted by the Finance Act, 1973, w.e.f. 1-4-1974 and shall be omitted by the Direct Tax Laws (Amendment) Act, 1987, w.e.f. 1-4-1989.
17. Inserted by the Finance No. 2 Act, 198 , with retrospective effect from 1-4-1968.
18. Substituted by the Finance Act, 1970, w.e f. 1-4-1971.
19. Inserted by the Finance Act, 1972 w.e.f. 1-4-1973.
20. Inserted by the Finance Act, 1972, w.e.f. 1-4-1973.
21. Inserted by the Finance Act, 1973, w e.f. 1-4-1974 and shall be omitted by the Direct Tax Laws (Amendment) Act, 1987, w.e.f. 1-4-1989.
22. Inserted by the Finance Act, 1976, w.e.f. 1-4-1976.

ANNEXURE II

AN INTERPRETATION OF ELASTICITY OF CHARITABLE CONTRIBUTIONS

Let an assessee contribute an amount G at price P of a unit of charity[1]. Suppose a small change in price $\triangle P$ leads to a small change in the amount of contributions $\triangle G$. Then the price elasticity of contributions (e_p) is given by

$$e_p = \frac{\triangle G/C}{\triangle P/P} \qquad (1)$$

Now let us compare the change in charitable contributions with the change in the loss in tax revenue to the exchequer due to the small change in price and interpret this comparison in terms of the price elasticity of charitable contributions. The change in both the contributions and the loss in tax revenue can be expressed as follows:

Change in charitable contributions $= \triangle G \qquad (2)$

Change in the loss in tax revenue $= (G+\triangle G)(1-\overline{P+\triangle P}) - G(1-P)$

$= G.\triangle P+(1-P).\triangle G - \triangle G.\triangle P$

For small changes in the price of a unit of charity the product term $\triangle G.\ \triangle P$ would be small. Neglecting it, the change in the loss in tax revenue can be rewritten as

$$= G.\triangle P+(1-P).\triangle G \qquad (3)$$

Due to change in price, the change in charitable contributions would exceed the change in the loss in tax revenue to the exchequer if (2) exceeds (3), i.e., if the following condition is satisfied.

$$G > -G.\triangle P + (1-P).\triangle G$$

or $$P.\triangle G > -G.\triangle P$$

or $$\frac{\triangle G}{G} > -\frac{\triangle P}{P}$$

This means a reduction in the price of a unit of charity should lead to an increase in charitable contributions and that the percentage increase in contributions should be greater than the percentage reduction in price. For $\triangle P < O$, this expression can be written as

$$\frac{\triangle G/G}{\triangle P/P} < -1$$

or $e_p < -1$

or $-e_p > 1$

That is, the price elasticity of charitable contributions should be less than minus one; in other words, it should be negative and greater than unity in magnitude.

Thus if the price elasticity is negative and greater than unity in magnitude, the increase in charitable contributions due to reduction in the price of a unit of charity exceeds the increase in the loss in tax revenue to the exchequer and hence the tax incentive provisions which reduce the price of a unit of charity would be efficient as stimulus to charitable contributions.

Note

1. In the absence of any tax incentive as stimulus to charitable contributions, the price of a unit of charity P would be unity.

ANNEXURE III

SOME CONCEPTS IN THE ITNS-150/150A ASSESSMENT FORMS AS APPLICABLE TO THE ASSESSMENT YEAR 1978-79

(*i*) Year of assessment:

The assessment year of a tax entity is the year following the year of earning income.

(*ii*) Gross income (GI):

Gross income is the income net of business expense deductions and certain tax incentive deductions other than Chapter VI-A deductions under the Income-tax Act 1961.

(*iii*) Loss set-off (LSO):

Under the Income-tax law a deduction is allowed for losses that are carried forward from the previous year. The amount of such loss for which deduction is allowed in the current year of assessment is said to be the loss set-off of the tax entity under consideration.

(*iv*) Assessed income (AI):

Assessed income is the taxable income as defined in the Income-tax law. It is that income to which the tax rate schedule of income tax is actually applied for the computation of tax liability of the assessee. It is calculated as given below:

$$\begin{pmatrix}\text{Assessed}\\ \text{income}\end{pmatrix} = \begin{pmatrix}\text{Gross}\\ \text{income}\end{pmatrix} - \begin{pmatrix}\text{Loss}\\ \text{set-off}\end{pmatrix} - \begin{pmatrix}\text{Chapter VI—A}\\ \text{deductions}\end{pmatrix} - \begin{pmatrix}\text{Long term}\\ \text{capital}\\ \text{gains}\end{pmatrix} - (\text{Royalty})$$

Hence, symbolically,

AI = GI — LSO — D — CG — R

where

D = Chapter VI-A deductions

CG = Long-term capital gains

R = Royalty

(*v*) Actual tax demand (ATD)

It is the tax liability computed by applying the statutory tax rate schedule of income tax to the assessed income of a tax entity plus the surcharge computed on the income tax so computed.

ANNEXURE IV

CHOICE OF APPROPRIATE INCOME CLASSES TO CLASSIFY DONOR COMPANIES

In order to estimate income and price elasticities of charitable contributions by income class, the donors were initially classified into five income classes: Rs 0-1 lakh, Rs 1-3 lakh, Rs 3-10 lakh, Rs 10-25 lakh and over Rs 25 lakh. The constant income and price elasticities along with related statistics obtained with income-price combination (Y3, P3) for all the five income classes are presented in Table A.1 (Equations *i* to *v*).

It would be noticed from column 5 in the table that the explanatory power of the functional specification of contributions used to estimate the elasticities is very low for all but one income class, Rs 0-1 lakh. This would be due to low price variation within the income classes. For improving upon the estimates of elasticities and explanatory power of the specification so that the estimates can appropriately be interpreted for the corresponding income classes, the parameter estimates are obtained for various combinations of the initial five income classes. Four new income classes for which the estimates are obtained are formed by combining every two adjacent income classes out of the five income classes. This improves upon the variation in price variable within the income classes. The parameter estimates for these four income classes are also presented in Table A.1 (Equations *vi* to *ix*).

It would be noticed that for two out of the four income classes, the explanatory power of the specification of contributions for the combined income classes is higher than that for the individual income classes. These two combined income classes are Rs 1-10 lakh and over Rs 10 lakh (equations *vii* and *ix*). The explanatory power of equation (*viii*) is higher than those of equations (*ii*) and (*iii*), and the explanatory power of

TABLE A.1
Income and Price Elasticities of Charitable Contributions obtained from Constant Elasticities Specification of 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
(*i*)	0—1†	132	14	—0.952	0.588*	0.577	0.15
				(1.22)	(5.02)	(0.36)	
(*ii*)	1—3	142	28	—4.663**	1.114*	—2.319	0.06
				(2.22)	(2.99)	(0.87)	
(*iii*)	3—10	133	71	—2.159	0.272	—3.828**	0.03
				(0.70)	(0.67)	(2.55)	
(*iv*)	10—25	72	56	—15.997**	2.183**	—7.979	0.06
				(2.20)	(2.47)	(1.39)	
(*v*)	Over 25	85	120	1.684	0.413**	6.788	0.03
				(0.59)	(2.05)	(0.62)	
(*vi*)	0—3	274	43	—1.016	0.502	—1.259	
				(1.51)	(6.35)	(0.89)	
(*vii*)	1—10†	275	99	—4.183*	0.785*	—5.561*	0.11
				(3.59)	(5.64)	(2.61)	
(*viii*)	3—25	205	126	—2.257	0.329	—8.003*	0.03
				(1.14)	(1.58)	(2.67)	
(*ix*)	Over 10†	157	175	—2.023	0.602*	—1.815	0.10
				(0.98)	(4.37)	(0.44)	

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.
3. † = An income class among the income classes chosen as appropriate.

equation (*ix*) is higher than those of equations (*iv*) and (*v*). Thus it seems to follow that the income classes Rs 0-1 lakh, Rs 1-10 lakh, and over Rs 10 lakh give an appropriate classification of donor companies (Equations *i*, *vii* and *ix*).

References

Aaron, Henry, (1971). "Federal Encouragement of Public Giving", in *Tax Impact on Philanthropy*. Symposium conducted by the Tax Institute of America, December 23, 1971, Washington DC, Tax Institute of America, Princeton NJ, pp. 210-213.

Andrews, William D. (1972). "Personal Deductions in an Ideal Income Tax", *Harvard Law Review*, vol. 16 (December), pp. 309-385.

Atkinson, A.B. (1976). "The Income Tax Treatment of Charitable Contributions", in Griason, R. (ed.) *Essays in Urban Economics and Public Finance* in Honour of William S. Vickrey. D.C. Heath and Co., Lexington, Ma.

Bagchi, A. and Pawan K. Aggarwal, (1983). *Reform of Statistical Information System in the Income Tax Department*. Report submitted to the Economic Administration Reforms Commission, National Institute of Public Finance and Policy, New Delhi, (*Mimeo*).

Becker, G.S. (1970). "A Theory of Social Interactions", *Journal of Political Economy*, vol. 82, pp. 1063-93.

Bittker, Boris I. (1969). "Accounting for Federal Tax Subsidies in the National budget", *National Tax Journal*, vol. 22, p. 244.

——(1972) "The Property and Vitality of a Federal Income Tax Deduction for Private Philanthropy" in *Tax Impact on Philanthropy*, Tax Institute of America, Princeton NJ, pp. 145-180.

Boskin, M.J. (1976). "Estate Taxation and Charitable Bequests", *Journal of Public Economics*, vol. 5, pp. 27-65.

Boskin, M.J. and Feldstein, M. (1977). "Effects of Charitable Deduction on Contributions by Low-income and Middle-income Households: Evidence from a National Survey of Philanthropy", *Review of Economics and Statistics*, vol. 59, pp. 351-354.

Boulding, K.E. (1962). "Notes on the Theory of Philanthropy", in Dickinson, Frank G. (ed.), *Philanthropy and Public Policy*, National Bureau of Economic Research, New York, pp. 57-71.

Clotfelter, Charles T. (1980). "Tax Incentive and Charitable Giving: Evidence from a Panel of Taxpayers", *Journal of Public Economics*, vol. 13, pp. 319-340.

Douty, Christopher M. (1972). "Disasters and Charity: Some Aspects of Cooperative Economic Behaviour", *American Economic Review*, vol. 52 (September), pp. 580-590.

Dye, R.F. (1977). "Personal Charitable Contributions: Tax Effects and Other Motives", *Proceedings of the National Tax Association*.

Feldstein, Martin (1975a). "The Income Tax and Charitable Contributions: Part I—Aggregate and Distributional Effects", *National Tax Journal*, vol. 21 (March), pp. 81-100.

——(1975b). "The Income Tax and Charitable Contributions : Part II—The Impact on Religious, Educational, and Other Organisations", *National Tax Journal*, vol. 28 (June), pp. 209-255.

——(1975). "Compensation in Tax Reform", *National Tax Journal*,

vol. 29, pp. 123-130.

Feldstein, M. and Charles Clotfelter (1976). "Tax Incentives and Charitable Contributions in the U.S. : A Micro-econometric Analysis", *Journal of Public Economics*, vol. 5, pp. 1-26.

Feldstein, Martin and Amy Taylor (1975). "The Income Tax and Charitable Contributions : Estimates and Simulations with the Treasury Tax Files," Harvard Institute of Economic Research, Discussion Paper Number 409.

Feldstein, Martin and Amy Taylor (1976). "The Income Tax and Charitable Contributions", *Econometrica*, vol. 44 (November), pp. 1201-1222.

Fisher, R.C. (1977). "The Combined State and Federal Income Tax Treatment of Charitable Contributions", *Proceedings of the National Tax Association*.

Goode, R. (1976). *The Individual Income Tax* (Revised Edition). Studies of Government Finance, The Brookings Institute, Washington DC.

Government of India (1976). *Committee on Direct Tax Statistics* (Final Report).

Gupta, Anupam and Pawan K. Aggarwal (1982). *The Impact of the Personal Income Tax*, National Institute of Public Finance and Policy, New Delhi.

Kahn, Harry C. (1960). *Personal Deductions in the Federal Income Tax*, Princeton University Press, Princeton, NJ.

MacDaniel, Paul R. (1972a). "An Alternative to the Federal Income Tax Deduction in Support of Private Philanthropy", in *Tax Impact on Philanthropy*. Tax Institute of America, Princeton, NJ, pp. 141-239.

MacDaniel, Paul R. (1972b). "Federal Matching Grants for Charitable Contributions : A Substitute for the Income Tax Deduction", *Tax Law Review*, vol. 27 (spring), pp. 377-413.

Reece, W.S. (1979). "Charitable Contributions : New Evidence on Household Behaviour", *American Economic Review*, vol. 69, pp. 142-151.

Schwartz, Robert A. (1966). *Private Philanthropic Contributions : An Economic Analysis*. Ph. D. Dissertation, Columbia University.

——1968). "Corporate "Philanthropic Contributions", *Journal of Finance*, June, pp. 479-497.

Schwartz, Robert A. (1970), Personal Philanthropic Contributions", *Journal of Political Economy*, vol. 78, pp. 1264-1291.

Surray, Stanley S. *et al.* (1972). *Federal Income Taxation*, The Foundation Press, Inc., Mineola, NY.

Taussig, Michael K. (1967). "Economic Aspects of the Personal Income Tax : Treatment of Charitable Contributions", *National Tax Journal*, vol. 20, pp. 1-19.

Vickrey, William S. (1962), "One Economist's View of Philanthropy" in Frank Dickinson (ed.), *Philanthropy and Public Policy*, National Bureau of Economic Research, New York, pp. 31-56.

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