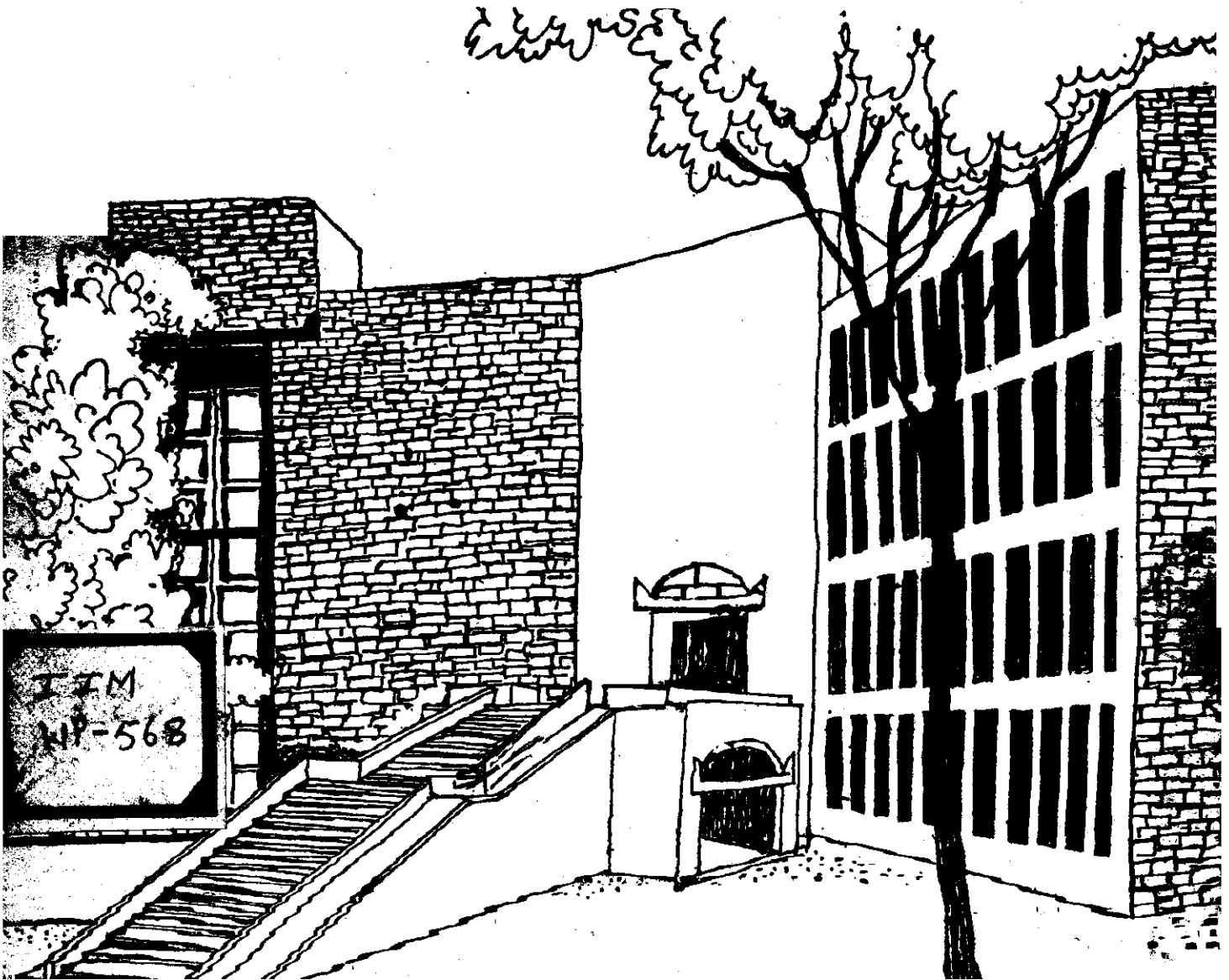




Working Paper



INVESTMENT ALLOWANCE VS. GENERAL TAX REDUCTION
EVALUATION OF POLICY OPTION

By

Ramesh Gupta

&

. Srinivasan

1985
(368)

W P No. 568

July 1985

The main objective of the working paper series of the IIMA is to help faculty members to test out their research findings at the pre-publication stage.

INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380015
INDIA

Abstract

The paper evaluates the general tax reduction in lieu of investment allowance. The general tax reduction affects the tax rates and has universal impact, while investment allowance helps lower the tax base and thus, affects different tax payers differently. By analysing the impact of two alternatives on acceptance of a new project and relating it to existing operations, it is concluded that under the Finance Minister's proposal of reducing tax rates from 52.5 per cent to 45 per cent in lieu of investment allowance, the companies to be adversely affected are those which have at minimum more than 20 per cent ^{annual} growth in their profits. Not many companies are growing at that rate. Further research is advocated in the area of replacement cost depreciation and productive capacity creation, utilisation and its profitability.

RECEIVED
APPROVED
GRATIS EXCHANGE CMA chairman
PRICE
ACC NO
VIKRAM SARABHAI LIBRARY
I. I. M. AHMEDABAD.

Abstract

The paper evaluates the general tax reduction in lieu of investment allowance. The general tax reduction affects the tax rates and has universal impact, while investment allowance helps lower the tax base and thus, affects different tax payers differently. By analysing the impact of two alternatives on acceptance of a new project and relating it to existing operations, it is concluded that under the Finance Minister's proposal of reducing tax rates from 52.5 per cent to 45 per cent in lieu of investment allowance, the companies to be adversely affected are those which have at minimum more than 20 per cent ^{annual} growth in their profits. Not many companies are growing at that rate. Further research is advocated in the area of replacement cost depreciation and productive capacity creation, utilisation and its profitability.

Investment Allowance Vs.
General Tax Reduction
Evaluation of Policy Option

BY

Ramesh Gupta and G. Srinivasan

The Finance Minister in his budget speech indicated the possibility of reducing corporate tax rates in the following two years in lieu of investment allowance currently available. Reduction of corporate tax rates benefits all the tax payers who have taxable income, while investment allowance benefits are available to only those who make new investment in specified assets. The general tax reduction affects the tax rates and has universal impact, while investment allowance helps lower the tax base and thus, affects different tax payers differently. Ideally, Finance Minister would like to offer both, but revenue considerations demand a choice. According to the Finance Minister the alternative to the scheme proposed by him is "to continue the investment allowance with no further reduction in the rates of corporation tax and surcharge." This seems to be like a Hobson's choice. How do we go about making the choice? Let us look at what is involved in each proposal? How do they affect the economic decisions of corporate bodies?

Companies with what kind of characteristics would get affected and in what way? Once we identify these characteristics and pattern of their economic behaviour we can leave for public policy makers to decide what they want to encourage/discourage to give a reasonable direction to the corporate world via fiscal policy.

Investment allowance is currently available at the rate of 25 per cent of cost of specified new assets bought. This sum can be deducted from taxable income provided that 75 per cent of such deduction is compulsorily retained out of current profits for reinvestment purposes. Thus, Investment allowance provides a tax benefit by reducing taxable income provided that corporation accepts certain restriction on utilization of its profits. Therefore, we need to investigate how far these tax benefits motivate investment behaviour and how material these dividend restrictions are for an individual corporation.

Let us first look at how the investment allowance affects the investment behaviour. For a corporation to accept a new project, benefits accruing from it should outweigh the costs involved. For a given cost of capital, at the margin project is accepted so long its net present value is not negative. Such a policy ensures

the desired rate of return. Net present value gets affected by the tax policies by enhancing or reducing the cash flow available to the investor. In our present system, tax policies affect cash flow in the following two ways.

1. On new investment in specified assets, an immediate, may be a year from now, reduction in taxable income is available up to 25 per cent of the new asset created. This helps in reducing the present tax liability from other operations and is available only if a new investment is made; and thus, benefits can be attributed directly to new projects. It is one time deduction.

2. Profits earned in each year is taxed at a statutory tax rates. To compute profits, one is allowed to deduct depreciation in addition to other operating expenses from revenue. Method and rate of depreciation can affect tax liabilities substantially. Accelerated depreciation in early years are most beneficial, as present value of such benefits is much larger due to early write off. Our tax laws accept double declining balance method for charging depreciation and have a provision for extra shift allowance if assets are used for more than one shift a day.

To assess the impact of alternate tax proposal, (i.e., reduction of tax rates vs. continuation of investment allowance) on acceptability of a project, we did a study using simulation. We considered the following:

- a. In lieu of investment allowance, three alternate tax rates, namely, 50 per cent (only surcharge reduction, 47.5 per cent (5 per cent reduction) and 45 per cent (5 per cent reduction and surcharge removal) are considered. We took these rates because Finance Minister has proposed 47.5 per cent rate for 1986-87 and 45 per cent for years following. We have considered 50 per cent rate as an additional alternative for this study.
- b. On most of the assets, current depreciation rate for tax purposes is 15 per cent for one shift, 22.5 per cent for double shift and 30 per cent for three shifts. We have considered all the three rates of depreciation covering possible alternate situation.

Corporation would invest in a new project only if on the margin the net present value of a project is positive. To compute present value, we need a suitable discount rate, the initial investment, and the net cash flow during the life of the project. Discount rate is the minimum required rate of return which a company must earn viz. its cost of capital. We have assumed three alternate cost of capital to provide flexibility in interpretation of our results. Our assumed rates are 10 per cent, 12 per cent and 15 per cent. These are after tax cost of capital.

Proposed tax changes i.e., tax reduction in lieu of investment allowance, would affect the acceptability of new project because one set of benefit would be substituted by the other. Investment allowance gives one time benefit while tax rate reduction provides benefit spread over life of the project. However, investment allowance benefits are substantial and immediate, while tax rate reduction benefits are small and spread over the life. When we take the discounted value of alternate benefits, benefits due to investment allowance are far more than benefits accruing from proposed maximum reduction of 7.5 per cent in tax rate (i.e., from a current tax rate of 52.5 to 45 per cent). According to our calculations, for a project to be acceptable, reduction required in tax rate is a minimum of 20 per centage points if we assume 12 per cent cost of capital and a single shift operation. For alternate assumptions, required reduction in tax rates are tabulated in table I.

Table 1

Reduction Required in Tax Rate for Project to Remain Acceptable

Present Tax Rate 52.5 per cent

Depreciation Rate	Cost of Capital (in Percentage)		
	10	12	15
Single Shift .15	24	20	16
Double Shift .225	33	26	20
Triple Shift .30	45	34	25

Such are the benefits of investment allowance on acceptability of a new project. However, for an existing corporation, proposed tax scheme offers advantage on existing operations also. The tax rate reduction in lieu of investment allowance would also reduce the tax liability on existing profits. Therefore, the fair comparison to be made would be to compare the benefits lost due to withdrawal of investment allowance on new projects and the savings accrued due to lower tax liability on existing profits. To make comparison, we would have to relate the scale of new operations with existing operations. If the proportion of new projects to the existing operations is large, a

company would be a loser under new tax proposal and vice versa*. In other words, under the proposed schemes, a high growth company would lose while a low growth or no growth company would benefit. What would be the break-even point? We have tried to answer this question through simulated results.

Let us assume that a project is acceptable at the margin. This implies that the cash inflow from the project is just sufficient to meet the cost on a present value basis. Under the proposed tax scheme which has no investment allowance and reduced tax rate the project may not be acceptable unless additional cash flow is available. The additional cashflow thus required can be computed. These additional cash flows on annuity basis can be expressed as a percentage of expected net profits and are to be compensated from tax savings on existing operations.

* This is true for a new project, because benefits due to investment allowance are much higher compared to benefits due to any proposed reduction in tax rates.

Percentage savings on existing profits would be the difference between existing tax rates (i.e., 52.5 per cent) and proposed tax rates. The proportion of these two percentage points (one computed on new profits and the other on existing profits), should indicate to what extent company can grow in terms of profits without being a gainer or a loser.

To illustrate, for a company operating single shift and with 10 per cent cost of capital, the increase in profits on new projects required is 32 per cent to be indifferent between investment allowance and 7.5 percentage point reduction in existing tax rates. The percentage tax reduction on existing profits are 7.5 per cent, therefore if existing profits as a proportion of new profits are more than 4 times, (i.e., $32 \div 7.5 = 4.26$), only then the proposed tax scheme would be beneficial to the existing company. To put it differently if new profits generated as a proportion of existing profits are more than 23 per cent (i.e., $7.5 \div 32 = 0.234$), then a company under proposed tax schedule would be a loser. Percentage increase in profits can be termed as growth percentage for a company.

The results for other combinations of tax rates, cost of capital and number of shifts, the "break-even" growth rates (in terms of neutrality of alternate tax proposals) are tabulated in Table 2.

TABLE 2

Cut-off Growth Rates At Which a Company would be Indifferent between Alternate Tax Proposal

A. Cost of capital 10 per cent

Depreciation Rate	If proposed tax rate is (in % age)		
	45	47.5	50
Single Shift (.15)	23	13	5
Double Shift (.225)	18	10	5
Triple Shift (.30)	15	9	4

B. Cost of Capital 12 per cent

Single Shift (.15)	32	17	7
Double Shift (.225)	24	14	6
Triple Shift (.30)	20	12	5

C. Cost of Capital 15 per cent

Single Shift (.15)	48	24	9
Double Shift (.225)	36	19	8
Triple Shift (.30)	29	16	7

From the table 2, one would notice that higher the tax concession from present tax rate of 52.5 per cent, the cut-off point for growth increases before a company gets adversely affected. All it implies is that larger the tax cut fewer the number of companies which would be adversely affected. Further, interesting results are with respect to utilization of assets and required rate of return. As the number of shifts increases (i.e., machine utilisation increases), the growth cut-off point decreases. Triple shift operations double the rate of depreciation, and thus, a larger amount of depreciation is provided in the initial years of a new project. This results in a larger discounted value of tax saving. With the reduction of tax rate there is a loss of this savings which has to be compensated from reduced tax liability on existing profits. With a given tax rate reduction, this is possible only if proportion of existing profits to new profits is high, and that means a lower growth rate in profits.

Similarly, with an increase in cost of capital (i.e., discount rate), cut-off growth rate for companies to be adversely affected, increases. This follows from the fact that as required rate of return increases,

higher cash flow is needed for project acceptability, and thus, loss due to nonavailability of investment allowance is off-set to a greater extent by gain on tax reduction from an increased required cash flow from the project. Hence, the contribution needed from existing profit is reduced, and thus, proportion of profits from new project can be higher in relation to profits from existing business.

Having analysed the results, it is interesting to note that under the Finance Minister's proposal of reducing tax rates from 52.5 per cent to 45 per cent in lieu of investment allowance, the companies to be adversely affected are those which has at minimum more than 15 per cent growth rate in their profits. Twelve per cent after tax cost of capital may be more appropriate to identify companies which would be adversely affected under the proposal. The cut-off growth rate in this case is at minimum 20 per cent for triple shift and 32 per cent for single shift operating companies. Next question, which is more of an empirical nature, is how many companies in Indian economy are growing at that rate. We did cursory analysis of the past two years data (1982-83 and 1983-84) published on 250 giant and mini-giant companies by Economic Times, and found that

only 40 and 43 companies in 1982-83 and 1983-84 respectively were growing at that rate. Policy makers need to decide should they worry about a handful of companies or grant a general concession to every company - old, new, growing, not so growing. We advocate the later, reduce the tax rates and do away with investment allowance for everybody's benefit. In the end, we list the areas of further research in this field. This may also be considered as limitations to our study.

1. The Investment allowance is related to acquisition cost of new physical assets whereas proposed changes in tax reduction is profit related. Proper analysis is needed to translate growth in assets to growth in profits. This takes us into the whole area of capacity creation, utilisation and its profitability - a neglected area of research in Indian context. As a general comment, it can be said that a company growing fast in terms of asset acquisition irrespective of its profitability would be better off with investment allowance. While reduction in tax rate should prompt them to worry about growth in profits. Growing fast in assets may not be enough, growth in assets utilisation and profitability may be a valid incentive to provide at this juncture.

2. Most often retention of investment allowance is defended on the plea that it compensates for inflation in replacing the assets. One needs to ask "Should replacement cost be basis of charging use of assets to the profits?" We do not quite understand why a businessman's deductions from profits should be indexed, when we do not have indexed tax system for other tax-payers. Even if, one believes, that for economic growth, depreciation on replacement cost is an appropriate incentive, we would argue that business man are more than adequately compensated for inflation with respect to depreciation on assets. A company can write off a large chunk of its assets cost at a very high rate, compared to its economic rate of depreciation, in early years of assets acquisition. These deducted amount reinvested in business would grow in much larger amount than the money needed to replace the asset. It is irony that none of the advocates of replacement cost for depreciation takes into account the returns earned on accumulated depreciation funds reinvested in the business before actual replacement takes

place. Such interest earnings on accumulated depreciation funds should out-weigh the inflation cost.

3. 3. Further, one need to investigate the effectiveness of statutory reserve requirement of the investment allowance. Equivalent to 75 per cent of the claimed investment allowance is not available for dividend distribution and should be credited to a separate reserve account out of profits. The behavioral and financial implications of such a statutory requirements on decisions relating to dividend, bonus issue, capital expenditure and borrowing capacity needs an indepth study.

Probably to all the above, one need to undertake an extensive empirical study using data which can only be provided by official agencies - like RBI, IDBI, Board of Direct Taxes etc. Since most of the data needed are not confidential and the issues to be addressed are significant the institutions should not hesitate in sharing the information. Only a united effort of the institutions on the one hand and the academicians on the other can answer some of these issues meaningfully.

~~RELEASED~~

APPROVAL

GRADING EXCHANGE - *EMA claim*

PRICE

ACC. NO.

VIKRAM SARABHAI LIBRARY

I. I. M. AHMEDABAD.