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Investment Allowance and Corporate Capital Structure

Introduction

An important objective of investment incentives has been to enable companies to raise enough funds internally, in meeting their investment demand. The investment incentives alter the relative cost structure between internal and external financing. This is done in two ways: first, the tax reduction due to investment incentives reduces the effective tax rate, thereby making equity financing cheaper than debt financing and second, and more specifically, the condition that a large portion of the deduction due to investment allowance or development rebate is required to be put into the investment allowance reserve which is not allowed to be used for any purpose other than future investment, makes internal raising of funds more attractive than external financing. Thus, on the one hand, between equity and debt financing, investment incentives favour equity financing, and on the other, within equity financing, internal financing.

In this chapter we shall examine to what extent the investment allowance provision had the effect of altering the financing pattern of the corporations.

Methodology

In an earlier chapter, while discussing the investment decision-making process of corporations, we have noted that the key variable, namely, the rental cost of capital, depends, among others, upon the capital structure as well. The relevant aspects of the capital structure are summarised by two elements of the

rental cost: (*i*) dividend pay-out ratio, and (*ii*) the gearing ratio. While the dividend pay-out ratio has a direct bearing on the pattern of equity financing, viz., how much finance to be raised by profit ploughbacks and how much by new issues, the gearing ratio represents the pattern of debt *vis a-vis* equity financing. While these two parameters have a bearing on the rental cost, they themselves are dependent on various tax provisions including the investment allowance.

a. The dividend pay-out ratio

The dividend pay-out ratio is assumed to be affected by taxation mainly in two ways: (*i*) The overall tax liability depresses the profits base available for distribution depending upon the effective tax rate, and (*ii*) dividend pay-out is also affected by the relative tax cost of dividends in terms of unit retained profits.

The effect of investment allowance on the dividend pay-out ratio is not only due to the fact that the effective tax rate is reduced and thereby the tax depression effect is less severe, but also due to the compulsory reserve-creating condition. The compulsion of investment allowance reserve makes retentions relatively cheaper than dividends to the extent of 75 per cent of the investment allowance claimed. However, it is quite possible that in order to meet the reserve-creating condition, companies might just switch funds from other non-statutory and non-obligatory reserves to the investment allowance reserve. In this case, investment allowance will have no impact on dividend pay-out ratio as no additional amount of profits is retained.

The impact of the investment allowance provision on the dividend pay-out ratio is tested by using the equation,

$$D_t = A_.. Y^1. (1-u')^1. (1-v)^{1s_1} \left[\frac{1-u'(1-ak)}{1-u'} \right]^{1s_2}. D_{t-1}^{1-1} \quad (4.1)$$

where D_t = current dividends, u' = effective corporation tax rate, v = relevant individual income tax rate applicable to dividend incomes, k = rate of investment allowance, a = proportion of investment allowance to be retained. Further, 1, s_1 and s_2

represent respectively, the lag parameters and the reponse coefficients, which vary between zero and unity. (For derivation, see Technical Note.)

b.   The debt-equity ratio

In the case of the debt-equity equation, investment allowance reduces the relative cost of equity financing in two ways: First, the effective corporation tax rate is reduced, and second, due to the partial reduction in the dividend pay-out ratio as a result of the investment allowance reserve. Thus the debt-equity equation consists of debt-equity ratio as the dependent variable and, long-run cost of debt financing and tax cost of equity financing as two independent variables. For computing the tax cost of equity financing, dividend income ratio estimated from equation 4.1 is used.

The long-run debt-equity ratio function is as follows:

$$\left[\frac{B}{1-B_t}\right] = A_1 \left[\frac{1-i/(r+p)}{(1-u)\ (1-Av)}\right]^{ms_3} \left[\frac{B}{1-B}\right]_{t-1}^{1-m} \qquad (4.2)$$

where t=interest rate on debt, r=real discount rate, P=rate of inflation, and u and v are tax rates as defined above. The cost of debt is represented by $[1-i/(r+p)]$ and the cost of equity, by $[(1-u)\ (1-v)]$. (For derivation, see Technical Note.)

Empirical Results

The dividend equation (4.1) as well as the debt-equity equation (4.2) are fitted to the Reserve Bank of India data on joint stock companies, for public limited, private limited and government companies separately.

a.   The dividend pay-out equation

In this equation dividends are regressed on gross cash-flow and the three tax variables; representing the over-all tax cost, the tax differential cost, and the tax differential cost arising due to investment allowance provision. The equation is estimated in an adaptive expectations framework. The coefficients adjusted for the estimated lag are presented in Table 4.1.

It is worth noting that the coefficient estimated for the variable representing the tax differential cost due to investment

TABLE 4.1

Regression Results of the Impact of Investment Allowance on Dividend Pay-out Ratio of Public Limited, Private Limited and Government Companies

	Public limited companies	*Private limited companies*	*Government companies*
Constant	1.32**	1.28**	16.12**
Gross cash flow	0.28**	0.74**	1.52*
Over-all tax depression variable	1.31**	1.62*	0.86
Tax differential variable	0.49*	0.22	0.02
Tax differential due to investment allowance	0.10	0.18	0.04
Lag parameter	0.25**	0.32**	0.43**
R^2	0.95	0.94	0.62
F	126.87	68.57	73.15
DW	2.16	1.48	1.32

Note: ** and * indicate regression coefficient being significant at 5 per cent and 10 per cent levels respectively.

allowance turns out to be insignificant in all the three cases: public limited, private limited, as well as government companies. It shows that the statutory obligation of creating a special reserve in respect of development rebate or investment allowance has not affected the dividend policies of companies. This provision has not been strong enough to persuade companies to retain profits. The reserve condition under the investment allowance provision is largely met by diverting to the investment allowance reserve part of the retained profits which would have been put into other reserves. However, this is not to say that taxation has no impact on dividend policies. In fact, in the case of public limited companies, the other two tax variables have turned out to be significant. The long-run elasticity of dividend payments with respect to over-all effective tax cost is estimated to be more than unity in the case of private sector companies. It is 1.31 for public limited companies and 1.62 for private limited companies. The tax cost differential between

dividends and retained profits also tnrns out to be important for dividend policies. However, in the case of government companies, tax policy impact on dividends appears to be insignificant as none of the three tax variables is significant.

Thus, it can be concluded that the requirement of additional reserve creating condition that is built into the investment allowance provision had not proved to be effective. It did not result in additional retentions. Companies might be simply shifting funds from other reserves to the investment allowance reserve to qualify for the tax deduction.

b. The debt-equity equation

The debt-equity equation turns out to be significant in all the three cases—public limited, private limited and government companies (Table 4.2). From this equation one can observe the

TABLE 4.2

Regression Results of the Impact of Investment Allowance on the Debt-Equity Ratio of Public Limited, Private Limited and Government Companies

	Public limited companies	Private limited companies	Government companies
Constant	5.34**	4.58*	21 22**
Cost of debt	5.55**	3.38**	2.21
Cost of equity	—27.87**	—16.20**	—5.23*
Lag parameter	0.38**	0.22**	0.32
R^2	0.87	0 85	0.42
F	79.04	62.11	19.84
DW	1.49	1.70	1.26

Note: ** and * indicate that the coefficient is significant at 5 per cent and 10 per cent levels respectively.

powerful role played by the relative costs of financing in determining the capital structure. The effect of investment allowance is felt only through tax rate reduction and not through its reserve-creating condition, which is clear from the dividend equation.

Summary

The measurement of the effect of investment allowance on the capital financing pattern of the corporate sector is attempted in this chapter in a two-equation model which was also used in estimating the investment equation in Chapter 2.

Investment allowance is supposed to encourage profit retentions *vis-a-vis* dividends, because of the condition that profits to the extent of 75 to 80 per cent of the investment allowance are to be retained in order to claim the deduction. The first equation captures the impact of the additional reserve creation of investment allowance provision. The empirical analysis in this study shows that there is no evidence to prove that companies retain extra amounts of profits for the purpose. They might be simply switching funds from other reserves to the statutory reserve for investment allowance reserve.

Between debt and equity financing, tax reduction due to investment allowance makes equity financing more attractive. Our study brings out the strong bearing of such tax reductions on capital budgeting.