

USING THE TAX ACT TO FUND RESEARCH AND DEVELOPMENT

Part One

A. Introduction

In 1986 the Income Tax Assessment Amendment (Research and Development) Act was passed and proclaimed. It came into operation on 25 June of that year and applies to the period commencing 1 July 1985 and ending 30 June 1991. Clause 7 of this Act introduced S.73B into the Income Tax Assessment Act 1936. This section establishes a regime intended to encourage industrial research and development (hereafter R and D) by providing "income tax deductions of up to 150 per cent of expenditure (other than expenditure on buildings) incurred on research and development in Australia".¹ The Minister in the Second Reading Speech indicated that the section was the Government's chief measure to increase private sector R and D and from the 1988 May Economic Statement this would still seem to be the case.²

The Minister enumerated for the section five specific objectives:³

1. to give an incentive by way of a tax deduction for greater R and D in Australia;
2. to concentrate new R and D in the private sector;
3. to give support to R and D activities in industry;
4. to encourage more effective use of Australia's R and D expertise; and
5. to create a capacity in Australian industry to be aware of, and exploit overseas technological developments.

At the time of its enactment the estimated cost of the concession was \$100 million for 1986-87, \$140 million for 1987-88 and \$160 million 1988-89.⁴ The tax expenditure is expected to grow beyond this. After

¹ Frank Cooper, "Other New Legislation" (1986) 21 *Taxation In Australia* 323 at 330.

² See Second Reading Speech, 1986 *Hansard* 3151 (Senate, 2nd June 1986); and see Treasurer of the Commonwealth of Australia, *Economic Statement* (25 May 1988), p. 80.

³ Second Reading Speech, 1986 *Hansard* 3151 (Senate 2nd June 1986) at 3151.

⁴ *Explanatory Memorandum* (The Senate): Income Tax Assessment Amendment (Research and Development) Bill 1986 (Cth.), p. 1.

30 June 1991 when the section terminates operation the Government will continue the deduction in reduced form. Nevertheless much expenditure will still be deductible at 100 per cent.⁵ It is estimated that in the 1992-93 financial year the Government will save \$250 million on its R and D tax expenditure.⁶ This saving will come about even though the Government will continue to generously write off R and D expenses.

Section 73B is not alone in its assistance to industry. Section 73A, introduced into the Income Tax Assessment Act 1936 by s. 11 of Act No. 6 in 1946, gives an income tax deduction for scientific research which may be classed as an activity in the field of natural or applied science for 'the extension of knowledge'.⁷ The scheme for Grants for Industrial Research and Development (GIRD) set up by the Industry Research and Development Act 1986 (Cth.) . . . "provides grants for research and development for companies which are unable to benefit from the income tax concession provided by the amendments to the Income Tax Assessment Act (viz. the introduction of s. 73B). The Act also provides for support to generic technologies and national interest projects".⁸

This paper proceeds on the assumption that there is a need for an increase in R and D by Australian industry. This assumption is not made capriciously nor is it expedient. It is based on the many studies carried out in recent years which stress that Australia's R and D is lagging behind that of other OECD countries.⁹ Nine years ago, in 1979, the Senate Standing Committee on Science and the Environment reported that by not having implemented past developments and by neither making nor exploiting new developments Australia's manufacturing, R and D and scientific expertise were dwindling.¹⁰ The Committee stated:

"It is vital that national policies for science and technology be developed as a matter of urgency to help reverse the decline in R and D".¹¹

This paper has a different purpose. It will focus on the efficacy of the vehicle chosen to encourage R and D by examining how R and D may be promoted, by asking if a tax deduction is a desirable method and by looking in detail at the legislation to see if it needs revision.

⁵ Treasurer of the Commonwealth of Australia, *Economic Statement* (25 May 1988), p. 80.

⁶ *Id.*, p. 81.

⁷ See: Income Tax Assessment Act 1936 (Cth.), s. 73A(6) for definition of 'scientific research'.

⁸ Frank Cooper, "Other New Legislation" (1986) 21 *Taxation In Australia* 323 at 330-1.

⁹ See: *Industrial Research And Development In Australia: Report from the Senate Standing Committee on Science and the Environment* (1979); *Government Financing Of Research And Development 1975-1983: Report from the Subcommittee 'Statistics' to the Committee on Scientific and Technical Research* (1984); Science and Industry Forum: *Getting The Best Value From The Australian Research Dollar* (January 1986), Australian Academy of Science; NSW Science and Technology Council: *Business Enterprise Research And Development In New South Wales* (January 1987).

¹⁰ *Industrial Research And Development In Australia: Report from the Senate Standing Committee on Science and the Environment* (1979), p. 44, para. 3.3.

¹¹ *Id.*, p. 16, para. 2.2.

B. Overview Of Section 73B

This section seemingly deals comprehensively with the provision of an income tax deduction for R and D expenses. For a company to be eligible it must be incorporated within Australia¹² and registered with the Industry Research and Development Board.¹³ If these requirements are followed then four categories of deduction are available.

1. An "eligible company" is entitled to an income tax deduction of an amount equal to 150 per cent of expenditure incurred in contracting out "research and development activities",¹⁴ to be performed on its behalf, to the Coal Research Trust Account or to an "approved research institute".¹⁵

2. Where an "eligible company" incurs "research and development expenditure"¹⁶ (other than the "contracted expenditure" explained above) and its "aggregate research and development amount"¹⁷ is greater than \$20,000 but less than \$50,000, it will receive an income tax deduction equal to an amount between 100 per cent and 150 per cent of its "research and development expenditure". In this situation the amount of the deduction is calculated by first ascertaining the "deduction acceleration factor"¹⁸ in accordance with the formula provided in s. 73B(1) and then multiplying it with the relevant "research and development expenditure".

Where the "aggregate research and development amount" is \$50,000 or greater the "deduction acceleration factor" is deemed to be 1.5.¹⁹ The result is an income tax deduction equal to 150 per cent of the relevant "research and development expenditure".²⁰

3. Where an "eligible company" incurs an "aggregate research and development amount" in a year of income of \$20,000 or less and in that year commences to use a unit of "plant"²¹ exclusively for "research and development activities" or does so in either of the two succeeding years of income, thereby incurring "qualifying plant expenditure",²² the company receives one-third of the "plant expenditure"²³ as an income tax deduction.²⁴ If the "aggregate research and development amount" exceeds \$20,000 then the "deduction acceleration factor" is multiplied

¹² The Income Tax Assessment Act 1936 (Cth.), s. 73B(1); see the definition of "eligible company".

¹³ *Id.*, ss. 73B(10), (11), and (12).

¹⁴ *Id.*, s. 73B(1); see the definition of "research and development activities".

¹⁵ *Id.*, s. 73B(1); see the definition of "contracted expenditure"; s. 73B(13) confers the deduction.

¹⁶ *Id.*, s. 73B(1); see the definition of "research and development expenditure".

¹⁷ *Id.*, s. 73B(1); see the definition of "research and development amount".

¹⁸ *Id.*, s. 73B(1); see the definition of "deduction acceleration factor".

¹⁹ *Id.*, s. 73B(1); see the definition of "deduction acceleration factor".

²⁰ *Id.*, s. 73B(14) confers the deduction.

²¹ *Id.*, s. 73B(1) and s. 54(2); see the definition of "plant".

²² *Id.*, s. 73B(4)(a) explains "qualifying plant expenditure".

²³ *Id.*, s. 73B(1); see the definition of "plant expenditure".

²⁴ *Id.*, s. 73B(15)(b) confers the deduction.

with one-third of the "plant expenditure" to give the income tax deduction.²⁵ In this way the cost of plant may be written off over three years.²⁶

4. An "eligible company" incurring "qualifying building expenditure"²⁷ in a year of income is permitted an income tax deduction equal to one-third of that expenditure. In this way "building expenditure"²⁸ may be written off over three years.²⁹

In the case of loss, destruction or otherwise disposal of plant or buildings the section gives deductions to allow the loss to be made up.³⁰ Subsections (21) and (22) confer deductions for the depreciation of plant.³¹ The term "research and development activities" is confined by definition³² to making "technical improvements on a product or process".³³ However:

"if the product, process or approach is substantially set and the primary objective is to develop markets, to do pre-production planning or to get production or control systems working smoothly, then the work is no longer development".³⁴

The section specifically excludes certain activities from being "research and development activities".³⁵ Finally, an administrative scheme is established to ensure that a company claiming an income tax deduction meets the legislative requirements.³⁶

Part Two

Finding The Right Incentive

The Government having decided that Australian R and D needed stimulation looked to find an appropriate incentive. They settled on a tax deduction. There were other alternatives. The suitability of this choice may be examined by asking two questions.

1. Why should the taxation system be used to provide the incentive?
and

²⁵ *Id.*, s. 73B(15)(a) confers the deduction.

²⁶ *Id.*, s. 73B(15).

²⁷ *Id.*, s. 73B(4)(b) explains "qualifying building expenditure".

²⁸ *Id.*, s. 73B(1): see the definitions of "building expenditure" and "building".

²⁹ *Id.*, s. 73B(17) confers the deduction.

³⁰ *Id.*, see ss. 73B(23), (24), (25), and (26).

³¹ *Id.*, see s. 73B(21) and (22).

³² *Id.*, s. 73B(1): see the definition of "research and development activities"; see also s. 73B(2) for further explanation.

³³ *Explanatory Memorandum* (The Senate): Income Tax Assessment Amendment (Research and Development) Bill 1986 (Cth.), p. 19.

³⁴ *Id.*, p. 20.

³⁵ *Supra* fn. (32).

³⁶ *Id.*, ss. 73B(10), (11), (12), (33), (34), and (35).

2. Having decided to use the taxation system, why give a tax deduction and not some other form of concession?

This section of the paper attempts to find the answers.

A. *Using The Taxation System To Encourage Research and Development*

"Because technology progress diffuses throughout the economy, there is a strong case for special tax treatment for research and development".³⁷ This statement appears not to understate the importance of technology to the economy. Technological development extends "the range of what man can do"³⁸ and increases "the spectrum of his options".³⁹ Research and development contributes to industrial efficiency and productivity by enhancing the products, processes and international competitiveness of a nation.⁴⁰ Hence the concern expressed in the U.S.A. at that nation's declining lead in R and D and the detrimental effect on its economy.⁴¹

Incentives for R and D may take the form of either a tax credit or a subsidy.⁴² Three arguments may be levelled against a tax incentive.

1. By many firms claiming deductions for R and D, administrative difficulties will be created for governments when delivering the incentive.⁴³
2. The neutrality of the taxation system should be preserved by directing it towards the collection of revenues and should not be used to correct difficulties "inherent in the economy".⁴⁴
3. Some also argue on ideological grounds that incentives to industry "should be based on political judgments of what is 'good' for the society" and "should not be left to forces of the market and public regulation"⁴⁵ as it would be if R and D were left to the discretion of a company seeking a tax deduction or rebate.

The other choice for direct encouragement is a subsidy (or grant). This form of incentive comes as a cash handout from governments to support R and D programmes. Naturally, a grant is not given indiscriminately but is made to a project considered to be worthy of its

³⁷ *International Competition In Advanced Technology Decisions For America* (1983): Panel on Advanced Technology Competition and the Industrialized Allies of the National Research Council (U.S.), p. 43.

³⁸ Emmanuel G. Methene, "How Technology Will Shape The Future", pp. 57-80 at 58-59 in *Science, Technology, and National Policy* (1981), ed. Thomas J. Kuehn and Alan L. Porter.

³⁹ *Id.*, p. 60.

⁴⁰ Bureau of Industry Economics Program Evaluation Report 1: *The Public Interest IR & D Program* (1985), p. 4.

⁴¹ Gerald M. Briton, *Bureaucracy And Innovation: An Ethnography Of Social Change* (1981), p. 28.

⁴² J. Herbert Hollomonn, "Technology In The United States: The Options Before Us", pp. 37-56 at 42 in *Science And Technology Policies: Yesterday, Today And Tomorrow* (1973), ed. Gabor Strasser and Eugene M. Simons.

⁴³ *Ibid.*

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

receipt. The use of a grants scheme is not clearly more desirable than a tax incentive.

It does not lead to fewer administrative difficulties than a tax incentive but perhaps creates more. A government carrying on a grants scheme is required to make an assessment of the commercial feasibility of the projects it is funding⁴⁶ in addition to seeing that the appropriate allocations are made and that the grants are not misspent. Furthermore, in making commercial assessments governments have less experience and fewer resources to devote to each case than many private firms.⁴⁷

"The lack of private research dollars may not have been the result of market imperfections, but of inadequate commercial potential that was already perceived by industry".⁴⁸

Even with government aid, useful goods still need to be sold at a profit:⁴⁹ the Concorde supersonic aeroplane was a commercial failure.⁵⁰

These considerations also militate against the ideological argument that governments should direct funding towards projects that are in the public 'good' and not leave choices to the thrust of market forces.⁵¹ Governments are not always equipped to make these decisions. Hypotheses on which ideas are based may be incorrect; scientific literature may be inaccurate or open to dispute; the possibility of actually producing a product may be overstated.⁵² "In many cases an R and D project may be a never-ending sink-hole for resources".⁵³ A government may suffer extreme political embarrassment if a competitor were to make one of its programmes obsolete.⁵⁴ A market may also "radically change".⁵⁵

Industrial R and D requires a stable environment so that it may be systematically planned and pursued.⁵⁶ A heavy responsibility is shouldered by a government funding the development and constant improvement of "state-of-the-art" technology in the longer term.⁵⁷ The position may be neatly summarised thus:

⁴⁶ *Supra* fn. (41) at pp. 29, 30.

⁴⁷ *Id.*, p. 30.

⁴⁸ *Ibid.*

⁴⁹ *Id.*, p. 29.

⁵⁰ *Ibid.*

⁵¹ *Supra* fn. (45).

⁵² John L. Pritchard, "The Tax Treatment Of Research And Development Expenditures: A Comparison Between Financial Accounting Standards And Section 174 Of The Internal Revenue Code" (1983) 10 *Rutgers Computer And Technology Law Journal* 149 at 155.

⁵³ *Ibid.*

⁵⁴ *Id.*, pp. 155-156.

⁵⁵ *Ibid.*

⁵⁶ A. G. R. Caie, "Tax Treatment Of R And D From The Prespective Of A Large And Established R And D Performer", pp. 535-548 at 536 in The Canadian Tax Foundation: *Report Of Proceedings Of The Tax Conference. Report Of The Proceedings Of The Thirty-Fifth Tax Conference* (1983).

⁵⁷ *Id.*, p. 542.

"Large enterprises will . . . be more successful in assessing the financial implications of their R and D programs, with a much better fix on the cash-flow effects of credits applied to current, past, or future taxation years".⁵⁸

Given the problematic nature of a grants scheme and the utility of tax incentives, the view that the tax system should be neutral⁵⁹ loses persuasive force.

In summary, the opening quotation⁶⁰ may be reiterated and expanded. Technological progress is of benefit to a nation's economy. Funding this development with subsidies (or grants) creates onerous and long term responsibilities and problems for governments to bear. Tax incentives, which may be given conditionally, are not as burdensome for governments and allow more autonomy to the corporations conducting R and D. A 'strong' case may be made out for "special tax treatment for research and development".⁶¹

B. Choosing Between A Rebate And A Deduction

The choice of tax incentive falls between a deduction and a rebate. The first is subtracted from a taxpayer's assessable income. The second is subtracted from the tax for which a taxpayer is liable. By carefully working out the percentages of either, the same result may be achieved whichever is chosen. The preference for a deduction arises out of s. 80 of the Income Tax Assessment Act 1936.⁶² Where a taxpayer has failed to produce assessable income there is no tax liability. In this case a rebate has no value especially as it cannot be carried forward into the next year of income. For a deduction this scenario has a different result. Effectively, where a company makes an overall loss in a year of income⁶³ any allowable deductions not realised in that year may be accounted for in the following year.⁶⁴ A company may continue to write off outstanding deductions for up to seven years after they have been received.⁶⁵ This reasoning seems to be behind the choice of concession.

Part Three

The Objectives Of Section 73B

Having examined the policy behind giving a tax deduction, this paper now asks whether the provisions of the legislation itself are able to achieve

⁵⁸ Id., p. 543.

⁵⁹ Supra fn. (44).

⁶⁰ Supra fn. (37).

⁶¹ Ibid.

⁶² See: s. 80, Income Tax Assessment Act 1936 (Cth.).

⁶³ Id., s. 80(1) for the definition of "loss"; see also s. 80(3) for the definition of "net exempt income".

⁶⁴ See s. 80(2).

⁶⁵ Ibid.

the goals mapped out in the second Reading Speech.⁶⁶ Each of the five goals will be examined in turn. They have been specifically enumerated in the *Introduction*.

*A. To Give An Incentive By Way Of A Tax Deduction For Greater R and D In Australia*⁶⁷

—“to provide an incentive for greater levels of R and D in Australia”.⁶⁸

While the Government acknowledges the existence of R and D in Australia, it hopes that s. 73B will motivate more investment and activity in this field. To do this the section uses the following means.

1. A deduction is given of up to 150 per cent to companies carrying on R and D for their expenditures on this activity.⁶⁹
2. The deduction covers the cost of plant, buildings, salaries, contracted expenditure and expenditure on matters directly related to the R and D being carried on.⁷⁰
3. The R and D must be carried on in Australia by Australian companies.⁷¹

In this way an incentive is given to Australian companies to conduct R and D in Australia.

The Australian deduction is more generous than those given by overseas governments. The Canadian Government in 1983 was only offering a deduction of 50 per cent.⁷² Indeed, frequently it was less.⁷³ However, the Singaporean budget of 1980 included deductions of up to 200 per cent of R and D expenses as well as an investment allowance of 50 per cent.⁷⁴ Section 73B does not allow for outside investment at all.⁷⁵ This means that research investment contracts and corporate joint ventures as a means of raising funds are precluded.⁷⁶ The incentive's appeal is therefore diminished. Private firms do not always possess sufficient capital to embark on long term programmes of research. In

⁶⁶ *Supra* fn. (3).

⁶⁷ *Ibid.*

⁶⁸ *Ibid.*

⁶⁹ See: Income Tax Assessment Act 1936 (Cth.), s. 73B (13), (14), (15) and (17).

⁷⁰ *Supra* fn. (14), (15) and (16).

⁷¹ *Supra* fn. (12) and (14).

⁷² K. D. H. Mathieson and A. P. Maika, "Investment Aspects Of R and D Tax Incentives From The Perspective Of An Investment Dealer", pp. 520-535 at 521 in *The Canadian Tax Foundation: Report Of Proceedings Of The Tax Conference. Report Of The Proceedings Of The Thirty-Fifth Tax Conference.*

⁷³ *Ibid.*

⁷⁴ Goh Chok Tong, "Singapore: Budget 1980" (1980) 34 *Bulletin For International Fiscal Documentation* 50 at 151.

⁷⁵ Income Tax Assessment Act 1936 (Cth.), s. 73B(9).

⁷⁶ Geoffrey G. Briant, "Research And Development Funds: An Alternative Source Of Financing", pp. 733-753 at 751-752 in *The Canadian Tax Foundation Report Of Proceedings Of The Tax Conference. Report Of Proceedings Of The Thirty-Fourth Tax Conference.* (1982).

such a case the risk of failure will deter all except the very brave and the foolhardy from borrowing the required funds.

*B. To Concentrate New R and D In The Private Sector*⁷⁷

—“to concentrate new R and D efforts in industry by greater business investment in, and responsibility for, R and D”.⁷⁸

The Government hopes that new R and D efforts will take place in private industry. This, if it comes about, will relieve the pressure on the C.S.I.R.O. and other government bodies to develop and execute new research initiatives. This approach has the added attraction that in the long term the Government will have less of an obligation to fund R and D. In the short term there will be little financial benefit as the 150 per cent deduction will deplete taxation revenues.

As this paper has already discussed in another context, governments are often not well equipped to make discriminating choices of projects to fund.⁷⁹ Moreover, governments are open to many disparate and fiercely promoted demands. Finance for R and D is often of lower priority than such issues as child care or road building. For expenditure to be politically acceptable it must be seen as valuable by the public. The public is not necessarily sensitive to innovative needs. The autonomy and relative privacy of private enterprise would allow for a more discriminating selection of technology.⁸⁰

The section sets up an administrative scheme to oversee the availability of the deduction and compliance with its prerequisites. The Industry Research and Development Board is the supervising body. Apart from determining whether a company is incorporated within Australia the Board may seek information relating to that company's R and D activities.⁸¹ By giving a deduction for “contracted expenditure”⁸² private industry is encouraged to fund the R and D of public bodies.

*C. To Give Support To R And D Activities In Industry*⁸³

—“to provide positive support for R and D activities in industry, on the basis that significant benefits accrue both to industry and the wider community through enhanced competitiveness of industry”.⁸⁴

⁷⁷ *Supra* fn. (3).

⁷⁸ *Ibid.*

⁷⁹ *Supra* fn. (47).

⁸⁰ *Industrial Research And Development In Australia: Report from the Senate Standing Committee on Science and the Environment* (1979), para. 3.2, pp. 40-41.

⁸¹ Income Tax Assessment Act 1936 (Cth.), s. 73B(12).

⁸² *Id.*, s. 73B(13).

⁸³ *Supra* fn. (3).

⁸⁴ *Ibid.*

Encouraging R and D may be justified on the basis of three reasons:

1. "research is a cultural activity, which quite apart from any economic benefit it may bring, has intellectual and even aesthetic values";⁸⁵
2. "Indigenous IR and D helps develop and retain appropriate technological skills and build up a capability to solve problems peculiar to Australia";⁸⁶ and
3. "the profitable production of new goods and processes for domestic and export markets as well as the provision of technical support to retain and expand such markets".⁸⁷

R and D alone does not ensure technological progress.⁸⁸ It is "an integral part of a much wider industrial/economic process and not an end in itself".⁸⁹ The results of R and D must be subjected to field trials, manufactured, and marketed.⁹⁰ This section provides no support beyond R and D. A company may carry out R and D and sell the results overseas while retaining the 150 per cent deduction. In this area the legislative scheme falls down.

In other ways the section is sensitive to commercial realities. Should a unit of plant cease to be used exclusively for research and development activities and, *ipso facto*, a deduction is not allowed under s. 73B for that year of income⁹¹ there may still be a deduction for depreciation under s. 54 of the Income Tax Assessment Act 1936. The taxpayer is entitled to retain the deductions already received for previous years of income. Further evidence of the section's sensitivity to changing commercial circumstances is to be found in subsections (28) and (29). If a building ceases to be used exclusively for R and D any deduction received under subsection (17) will be deemed never to have been allowed. However the Commissioner has a discretion not to apply subsection (28) if it would be unreasonable in the surrounding commercial circumstances.⁹² To a limited extent the section provides measures addressing commercial practicalities. These measures render positive support to companies carrying on R and D.

D. To Encourage More Effective Use Of Australia's R And D Expertise ⁹³

—"to provide mechanisms for encouraging effective use of Australia's existing R and D expertise".⁹⁴

⁸⁵ *Supra* fn. (80).

⁸⁶ *Id.*, p. 41.

⁸⁷ *Ibid.*

⁸⁸ *Id.*, p. 41-42.

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*

⁹¹ Income Tax Assessment Act 1936 (Cth.), s. 73B(21).

⁹² *Id.*, s. 73B(29).

⁹³ *Supra* fn. (3).

⁹⁴ *Ibid.*

The section provides two mechanisms to achieve this goal.

1. The payment of trained staff is assisted by the inclusion of salary expenditure in the deduction for "research and development expenditure".⁹⁵
2. By giving "research and development activities" a restricted definition, trained personnel are less likely to be underemployed.⁹⁶

*E. To Create A Capacity In Australian Industry To Be Aware Of And Exploit Overseas Technological Developments*⁹⁷

—"to encourage a capacity in industry to be aware of, and exploit, technological developments occurring in other countries".⁹⁸

The achievement of this objective will be indirect. Companies are encouraged to carry on R and D by the provision of tax deductions that are at least equal to costs. By continuing this support over five years, greater levels of R and D should be achieved. As its benefits are appreciated industry will feel inclined towards the "continuing use and development" of R and D.⁹⁹ To this end industry will be quicker to investigate and use overseas developments to its own advantage. Section 73B gives the private sector "maximum leeway to exercise its ingenuity, innovativeness and risk-taking capacity".¹⁰⁰

Part Four: Conclusion

If a government wishes to directly encourage R and D it may offer a subsidy or a tax incentive. A tax incentive may be given either as a rebate or as a deduction. While a subsidy (or grant) may be useful for very small companies and necessary for non-profitable start-up companies it becomes problematic when the recipient is not only profitable but is well-established. Governments will usually lack the experience and expertise of private industry in making assessments of a product's commercial feasibility. Governments also have to contend with many rival claims for funding and political considerations.

Tax incentives give greater leeway to the private sector in assessing its R and D options. While the private sector may fully draw on its ingenuity, the government may avoid the burdensome duty of choosing which programmes to support and the administrative difficulties associated with a long term grants scheme. A tax deduction is the most effective type

⁹⁵ *Supra* fn. (16) and (20).

⁹⁶ *Supra* fn. (14) and see s. 73B(2).

⁹⁷ *Supra* fn. (3).

⁹⁸ *Ibid.*

⁹⁹ *Supra* fn. (40).

¹⁰⁰ Goh Chok Tong, "Singapore's Tax System" (1980) 34 *Bulletin For International Fiscal Documentation* 144 at 146.

of incentive in that losses may be carried forward for up to seven years¹⁰¹ during which time outstanding deductions may be received.

Section 73B itself is an attractive provision which deals comprehensively with the task of giving a deduction for "research and development expenditure", "contracted expenditure", "building expenditure", and "plant expenditure". It is sensitive to the commercial practicalities that must be faced by industry. However, by not giving an incentive for outside investment in "eligible companies" R and D funding options are reduced. It remains to be seen whether by helping to fund R and D the Government will motivate companies to use any of their results in the manufacture of products. Perhaps they will sell off their results to overseas firms. This would defeat the Government's aims.

ROGER GORMLY

Third Year Student

¹⁰¹ *Supra* fn. (62).