

AUSTRALIAN BIOTECHNOLOGY ASSOCIATION

Submission to the Review of Business Taxation High growth, high-technology industries perspective

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Appendix 1: Report on Biotechnology Venture Capital Forum: 14 Dec. 1998

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1. Overview:

The Australian Biotechnology Association (ABA) is a national body of companies and individuals dedicated to the development and prosperity of the Australian biotechnology industry.

Specifically, the Australian Biotechnology Association's mission is:

- **To encourage and support the commercialisation of Australian bioscience in the international marketplace**

The ABA agrees that it is critical that the Government is addressing taxation reform and believes that it presents significant opportunities to foster growth in exports and employment in key high technology sectors.

2. Key points:

- **Innovation is a key driver of wealth; biotechnology relies for its exploitation on the generation of ideas and on an appropriate investment climate to develop those ideas commercially.**
- **High technology industries based on biotechnology are important to the growth of Australian exports, to protection against cheap imports, to employment, to the environment and to the health of our people; this equates to health & prosperity for Australia.**
 - The impact of biotechnology is forecast to be equivalent to that of the information and communications industries
 - Investment in global biotechnology-based industries is growing at up to 45% per year with 20% pa growth in revenues being common.
- **Venture capital funds are acknowledged as the main reason for the exceptionally strong growth of the US economy since the start of this decade.**
 - The current Australian Capital Gains Tax (CGT) impacts adversely on investment in Australian biotechnology.
 - Australia's CGT system and taxation regimes need to be comparable with those in other nations, particularly those of developed countries such as North America and Europe in order for Australia to compete effectively to attract overseas funds
- **Government support for R&D is important for industries based on biotechnology which have a high requirement for R&D.**
 - The Review of Business Taxation presents an opportunity to redevelop Government support for R&D and its commercialisation.
 - Continuation of the taxation concession (at least at the current net rate but preferably at 150%) signals the Government's support for R&D both to Australian and overseas companies.
 - Small start-up companies are important in commercialising biotechnology research. Initiatives are required that recognise their needs not only for capital but also "patient" capital.

3. *The Australian Biotechnology Association*

The ABA was established in 1985 as a public company limited by guarantee, when the potential for the application of the technology was starting to be realised.

It is a national body of over 400 individuals from research institutions, legal, firms regulatory bodies and companies. In addition there are 40 corporate members; students also form a proportion of the membership.

The objectives of the ABA are to:

- **Foster research, development and application of biotechnology in Australia**
- **Promote communication between the research community and the emerging biotechnology industry and those that service it**
- **Represent the industry by advising and lobbying government and other national and state bodies on matters of S&T policy relating to biotechnology (including international agreements)**
- **Foster exchange of information & education on biotechnology**
- **Represent the Australian biotechnology industry internationally.**

4. *Biotechnology, Innovation and the generation of wealth:*

Innovation is the key driver of economic wealth. Indeed in the recent British Government White Paper "Our Competitive Edge: Building the Knowledge Driven Economy" it was noted that

"Nations across the world are becoming progressively more sophisticated and well educated. All markets increasingly demand innovative and higher quality products and services"

and that

"In the global market place, knowledge, skills and creativity are needed above all to give the UK a competitive edge. These are the distinctive assets of a knowledge driven economy."

Biotechnology relies for its exploitation on the generation of ideas and on an appropriate investment climate to develop those ideas commercially. With the increasing mobility of capital and Intellectual Property globally, the Review of Business Taxation provides an opportunity to look at the taxation system and how it impacts Australia's position with the rest of the world.

5. *Scope of the biotechnology industry*

The National Biotechnology Advisory Committee of Canada reporting in "Leading in the Next Millennium" note that:

"Biotechnology and its applications will rival information technology as a "change maker" in terms of economic growth, employment and quality of life"

5.1 Global situation:

World sales of biotechnology based products are estimated to be about US \$15 billion with human health care accounting for over 90 per cent of applications and the latter growing at over 10% per annum. Transgenic seeds have captured a major share of US acreage of

cotton, soybeans and corn (often over 50%) and plantings of genetically modified varieties have grown rapidly in Argentina and Canada. Industry Canada estimates that the world market for biotechnology application will reach US \$50 billion by 2005. The USA has estimated that there is an employment multiplier of 15 arising from the application of biotechnology.

Biotechnology industry revenues in North America have been growing at between 20% and 45% per year; there has been demonstrated growth in employment of around 20% and commitment between 35% and 55% of its revenue to R&D. These are symptoms of a dynamic and committed industry sector with a clear vision of growth.

The USA dominates commercial activity, due to its strong research and industrial base, its well developed venture capital sector and entrepreneurial culture and its regulatory regimes. In the USA most of the development and commercialisation of biotechnology has been through start-up companies; this pattern has been followed in Australia. In Europe biotechnology commercialisation has tended to be concentrated in the large pharmaceutical and agrochemical companies. In Asia, governments have played an important role in driving the adoption of modern biotechnology techniques.

5.2 Australian situation:

The Australian biotechnology industry is relatively small but is well positioned with some key strategic advantages. Australia has world-class research, good infrastructure, a competitive labour market and is a politically stable country. Australia has the opportunity to emulate the growth experienced in North America and Europe.

Biotechnology companies in Australia comprise about 140 dedicated biotechnology companies which use biotechnology techniques to produce the majority of their goods & services. In addition there are many other companies in human therapeutics, food, veterinary medicine, agriculture and other sectors, which use some biotechnology techniques as part of their production and manufacture. Conservatively, it is estimated that there are about 1000 of such companies which are “minority” users of biotechnology in Australia.

5.3 Biotechnology and R&D

R&D is a key driver of growth in the biotechnology industry.

The biotechnology industry is considered to be a high technology industry that typically has a strong commitment to R&D and a high intensity of R&D expenditure. North American private sector investment in biotechnology R&D is growing at between 20% and 25% per year.

5.4 Commercialisation of biotechnology:

Emerging biotechnology-based firms are heavy consumers of investment capital.

Although biotechnology industries offer excellent prospects for wealth generation, the costs and risks associated with commercialisation remain very high and the time frames can be long. Biotechnology is substantially a research driven technology requiring highly skilled labour. Taking a new diagnostic from applied R&D to market might cost from \$2

to \$30 million and take up to five years; a new pharmaceutical product or crop variety might require 12 -15 years and over \$200 million to bring to the market.

6. Issues Relating to the Review of Business Taxation:

6.1 Climate to support the development of new discoveries: Australia's needs
There is a strong need to encourage a climate of investment in new ventures and one that supports high growth companies where revenue and profits are reinvested in the development of the company. The taxation system can support this process

Discoveries are often licensed pre-maturely to foreign multinationals with a poor return to Australia for the research, much of which is publicly-funded. This is a consequence of the difficulty of raising capital to develop the research to useable products in Australia. Recent examples of this loss include:

- **Granulocyte Colony Stimulating Factor (GCSF), which stimulates the growth of new tissue and was discovered at the Walter & Eliza Hall Institute in Melbourne. As a result of a lack of investment capital in Australia, it was commercialised in Japan and the US for an annual market of over \$1 billion, including imports into Australia.**
- **Pin Technology, the micro-synthesis of multiple peptides, is the basis of combinatorial chemistry for automated testing of biological activity in large-scale screening for potential new drugs. This technology was discovered by an Australian scientist, but has now been developed in the US into a standard analytical screening system for an annual market of over \$1 billion.**

6.2 Availability of Venture Capital & Capital Gains Tax (CGT):

The availability of venture capital is a key issue for the future development and commercialisation of Australian biotechnology.

Modifications to the current CGT are seen as critical to the encouragement of the Venture Capital industry in Australia. Venture Capital funds are acknowledged as the main reason for the exceptionally strong growth of the US economy since the start of this decade. An internationally competitive CGT is needed in Australia in order to drive the growth based on innovation.

At the recent R&D Tax Workshop hosted by the Innovation Branch of the Department of Industry, Science & Resources, Mr Bill Ferris, Chair, AVCAL's Taxation Committee suggested a CGT of 20% "across the board" and a CGT of zero specifically for off-shore investors which could be identified in a Venture Trust Register held in Australia with an appropriate organisation.

The biotechnology industry believes that the tax system should encourage patient, high-risk venture capital for technology sectors such as biotechnology using a sliding scale model where CGT is reduced as the time of holding of assets increase. This has been introduced

into the UK and aims to reward longer term investors supporting industry growth. Biotechnology ventures are typically long term with little prospect of profit early on.

If growth emulates the North American experiences, investment demand from Australian biotechnology firms can be expected to be in the order of \$1b to \$4b over the next 5 years. To attract this level of investment, international investment in Australia will be important and competitive tax structures for patient capital investment will be essential.

CGT also impacts on the level of return to individuals in small start-ups as most senior staff take some level of reward in the form of risk sharing equity. The Wills Report (Health & Medical Research Strategic Review: The Virtuous Cycle - Working together for health and medical research) notes that the “involvement of academic and ex-academic researchers is important in establishing biotechnology enterprises” and that “Researchers should have strong financial incentives to be involved in, and contribute to, the success of business enterprises”.

6.3 Government support for R&D

Government support for R&D is critical for the growth of the Australian biotechnology industry.

It has been mooted (R&D Review Feb 1999/Australian Financial Review 22 March 1999) that the Government is considering removal of the Tax Concession for R&D as part of its business tax reform.

The ABA fully supports the need for a tax concession for R&D as it provides an on-going incentive, particularly for medium and larger sized companies both from Australia and overseas to invest in R&D in Australia. Removal of the tax concession provides a clear message that the Australian Government does not support R&D.

Australia is seen by some overseas companies as a good environment in the region for investments in R&D to underpin their business enterprises - good and cost effective researchers, good research infrastructure and a politically stable country. We have the opportunity to capitalise on this further. It is important that the value of the concession be retained, as a minimum, at the current level (with an actual benefit of 9c/dollar), otherwise compliance costs will outweigh the benefits. With a reduction in the Corporate Tax Rate the the R&D Tax Concession would need to be increased by an amount that will at least retain its current value. Many, however, argue for a return to the previous level of 150%.

Start-up Companies:

The ABA notes that the current schemes for supporting business expenditure on R&D have some imperfections particularly with respect to small, start-up firms.

Small firms with unproven technology generally find access to the R&D Tax Concession not cost-effective. The compliance costs are too high and the benefits are insufficient to be an incentive for conducting R&D; unless a firm is in profit, the benefits are not immediately available, although tax credits do accrue.

The R&D Start Grants Program is also not readily available to the emerging new technology firms. Selection criteria tend to exclude unproven technologies.

This combination of support for R&D does not service adequately the needs of emerging biotechnology-based firms and the Review of Business Taxation is an opportunity to address the imbalances of the current support for R&D.

Suggestions for support for small start-up companies were made at the recent R&D Tax Workshop hosted by the Innovation Branch of the Department of Industry, Science & Resources. These included an up-front payment of benefits (based on a delivery mechanism like the Canadian system of refundable tax credits). In addition, the Enterprise Investment Scheme (EIS) of the UK was seen as good vehicle to further encourage investment in early stage R&D.

The Enterprise Investment Scheme provides " tax deduction at 20% for investments up to around \$A400,000 per annum by investors in qualifying small (less than \$20 million gross assets) unlisted enterprises if the investment is held for a minimum of 5 years. In addition, CGT is not charged on any gain arising when the shares are sold after 5 years. If disposal is made at a loss then that loss (less income tax relief) can be deducted from taxable income. Further, unlimited CGT roll-over relief is provided for investments in eligible shares by entrepreneur owner/directors".

In addition there was also strong support at the Workshop for tax relief on scrip rollovers (whether they be in the public or private sector or a combination of both); this is seen as critical particularly for smaller companies; it would help to mitigate against premature selling out.

Thus for small start-up companies taxation incentives are needed which help encourage the provision of capital as well as investment for the longer term by both local and overseas institutions as well as individuals (Business Angels).

7. Consultations:

A Biotechnology Venture Capital Forum was held on 14 December 1998 in Sydney, co-sponsored by the Australian Biotechnology Association and the Department of Industry, Science & Resources Biotechnology Task Force.(Appendix 1: Report) The forum reviewed the need, access to, and availability of venture capital for Australian biotechnology firms. The issue of the impact of CGT and other taxes on the availability of venture capital was a central topic at this function. The key points were:

- **lack of access to capital for early stage developments (establishing companies)**
- **high level of Capital Gains Tax in Australia relative to other nations**
- **the limited biotechnology experience and understanding of biotechnology on the part of Australian venture capitalists.**

- the "perceived" risk level associated with biotechnology investment because of the long period from concept to market (including the regulatory process)

[Note: Biotechnology is a high-risk investment; however the issue is the understanding by the investment market of when a return can be realised and that this does not have to wait for the product to reach the market]

- the need to increase the supply of suitable investment opportunities in biotechnology for Australian venture capitalists.

8. Key References:

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BIOTECHNOLOGY VENTURE CAPITAL FORUM

14 DECEMBER 1998

A Workshop jointly sponsored

by the

Australian Biotechnology Association

and

The Department of Industry, Science and Resources
(Biotechnology Task Force)

Executive Summary

The Biotechnology Venture Capital Forum was held on 14 December 1998 in Sydney. It was co-sponsored by the Australian Biotechnology Association (ABA) and the Biotechnology Task Force within the Department of Industry, Science and Resources (ISR). The forum reviewed the need, access to, and availability of venture capital for Australian biotechnology firms.

Availability of Venture Capital & Capital Gains Tax

The availability of venture capital is a key issue for the future development and commercialisation of Australian biotechnology. The availability of capital is affected in part by Australia's capital gains tax (CGT) regime and its impact on the supply of overseas investors because it is uncompetitive with tax rates in countries such as the USA and UK. Taxation of unrealised gains from share exchanges for company acquisitions or mergers is another disincentive. The biotechnology industry does not expect a tax system that favours it preferentially, but the tax system should not discourage patient, high-risk venture capital for technology sectors such as biotechnology.

The ABA will be making a submission to the Review of Business Taxation (RBT) that reflects the views expressed during the forum.

Skills and Scope of Australian Venture Capitalists

The limited biotechnology skills and biotechnology exposure of Australian venture capitalists is an impediment to the growth in investment available for Australian biotechnology.

The strong research nature of biotechnology proposals requires expert financial analysts to both assess biotechnology proposals and to promote the investment opportunities.

Supply of Suitable Investment Opportunities

The supply of biotechnology projects and start-up companies that are suitable vehicles for investment needs to increase for a stronger Australian biotechnology venture capital sector to develop. The current flow of biotechnology proposals is insufficient to enable venture capitalists to specialise in biotechnology, and use co-investment risk management strategies. Increasing the supply of entrepreneurs, growing the management skills of new firms, encouraging business incubators and fostering spin-offs from research institutions are important strategies for increasing the supply of deals to venture capitalists. Improving the management skills of biotechnologists and the investment readiness of Australian biotechnology firms is clearly a strategy for increasing the success rate of investment proposals.

Record of Outcomes¹

Introduction

The Biotechnology Venture Capital Forum was an invitation-only seminar which aimed to review the availability of venture capital for biotechnology firms and to review priorities for improving access to venture capital by biotechnology firms

The forum was chaired by Dr Kate Grenot and was attended by approximately 40 representatives of government, industry associations, venture capital and stockbroking companies, university technology transfer organisations, biotechnology companies and private consultants. In her introduction, Dr Grenot noted that less than half of those attending were from tax paying enterprises. In addition, she noted that the attendees had no specific tax expertise and so the forum would need to approach the issue from a strategic perspective, which would include the views of investee companies, investors and research institutions which aimed to commercialise biotechnology.

The seminar had 5 main speakers. Dr Elane Zelcer of Thrombogenix Pty Ltd and Dr George Jessup of Start-Up Australia Pty Ltd outlined venture capital requirements for biotechnology from the perspective of investee and investor, Mr Colin Calver from ISR spoke of the Pooled Development Fund (PDF) program in ISR and Dr Carrie Hillyard of Coates Myer and Company Pty Ltd, spoke about the impact of CGT on venture capital availability. Mr Dan Buchler of Treasury, outlined the Review of Business taxation and some of the issues that may be relevant to biotechnology firms.

Issues raised by these speakers were discussed in syndicate and plenary sessions. Summaries of the speakers' presentations and the plenary sessions are attached.

Availability of Venture Capital & CGT

The availability of capital is affected in part by Australia's capital gains tax (CGT) regime and its impact on the supply of overseas investors. The biotechnology industry does not expect a tax system that favours it preferentially, but the tax system should not discourage patient, high-risk venture capital for technology sectors such as biotechnology. It was suggested that:

- **The Australian taxation system needs to be benchmarked internationally to ensure that CGT rates, rollover provisions and measures of potential returns on investment were internationally competitive. There should be no disincentive for overseas VC funds to invest in Australian firms when compared to firms elsewhere:**

¹ Prepared by Advance Consulting & Evaluation Pty Ltd, January 1999.

- The UK has recently introduced a tapering scale for application of CGT on investment returns to encourage longer-term investment for technology sectors such as biotechnology;
- In the US, shares in a new company attract only half the normal CGT if held for 5 years, and are untaxed if held for 10 years;
- US pension funds have invested internationally in technology stocks but there is a disincentive to invest in Australia because they are liable for Australian tax, but are not taxed in the US; and
- Unrealised gains from share transfer acquisitions and mergers, and incentive share option plans, are taxed in Australia but not in the US.
- The potential impact on tax revenue of increased growth in a reduced CGT environment needs to be modelled, using a reasonable timeframe, to support the argument for a reduced CGT.
- Government policy should focus not on biotechnology alone but on emerging high-growth industries. The target of “optimising growth” in the RBT needs to be considered in this context. Similarly, there is no advantage for Australia to have a bullet-proof, equitable tax system if this means that it is uncompetitive in the international marketplace.

Skills and Scope of Australian Venture Capitalists

An important issue which affects capital availability is lack of experience of Australian VC fund managers with early stage firms in general and biotechnology firms in particular. It was suggested that:

- VC funds and skills need to be expanded and improved, to increase their capacity for specialisation and co-investment²; and
- Superannuation funds and gatekeepers need to be educated to increase their willingness to invest (or recommend investments) in VC funds, particularly in early stage investments. The government can support this process through tax incentives but a culture change is also required.

Supply of suitable investment opportunities

There also needs to be an increase in the supply of firms that are suitable vehicles for investment. This might be achieved through:

- Increasing the supply, and management skills, of entrepreneurs through business incubators supporting spin-offs from research institutions;
- Improving the ability of entrepreneurs to receive an adequate return for risk;

² An increase in the number of funds with biotechnology exposure will increase the incidence of co-investment and improve the risk exposure profile of venture capitalists operating in biotechnology

- Changing taxation rules such that when a trade sale which results in exchange of shares from one stock to another, the transaction would not be treated as a tax event, because it does not involve cash (this is an important point where Australian practice diverges from the U.S. system);
- Commercialising research institutions' technology and IP in a way that is attractive to potential investors and enables them to obtain a capital return (some requirements placed on research institutions (eg. delivering a "national benefit") may be producing distortions in the commercialisation process);
- Maintaining support for R&D and ensuring that there is a strong flow of innovation in Australian biotechnology;
- Improving the management skills of biotechnologists and the investment readiness of Australian biotechnology firms; and
- Turning around the trend of growth companies in Australia meeting their finance needs overseas.

Data deficiencies

It was agreed that there is no reliable estimate currently available on the size and growth in investment requirements of the Australian biotechnology industry. Data needs would include areas such as the number of firms operating in Australian biotechnology, the number of new firms per year, indicators of sectors where growth is occurring, sectors where growth is likely to occur, funds consumption by existing firms, and investment profiles by existing biotechnology venture capitalists.

Other Issues

The forum also indicated further areas for consideration by the Biotechnology Consultative Group (BIOCOG) in the development of the Biotechnology Action Agenda. These are:

- The level of performance of R&D and its impact on growth of Australian biotechnology;
- Time from concept to market and its impact on risk profiles of biotechnology; and
- Linkages between biotechnology and academia and its impact on the commercialisation of Australian research.

Summary of Speakers Presentations

Dr Elane Zelcer

Dr Elane Zelcer of Thrombogenix Pty Ltd spoke of venture capital requirements for biotechnology. Thrombogenix is a private company with university, venture capital and private shareholders. It concentrates on developing therapeutics for blood flow diseases. Dr Zelcer listed a number of critical success factors including project management, commercial management, the product pipeline, the ability to attract additional funding, and the partnership it forms with external organisations.

Dr Zelcer believes that if Australia is to be an attractive source of investee companies, it needs excellent bioscience R&D; a strong bioscience infrastructure; a range of commercial successes that can be used as role models; and excellent overseas networks, especially those within the academic community.

Even if these factors are present, however, there are certain risks that need to be weighed up by investors. These are return on investment (ROI), related tax issues, levels of commercial experience in potential investee and their links with academia, and potential routes to market. These risks can be managed in a number of ways. Australia can demonstrate the levels of ROI on successes here and elsewhere. Overseas networks can be developed and cross-training can be provided in science and business. At the broader level the investment environment can be stimulated with supportive forward-looking industry and taxation policies.

Australia's investment environment has improved since the activation of Innovation Investment Funds (IIFs). However, further measures are needed. These include reducing investor's tax exposure, recognising the special difficulties faced by technology intensive (high cost) start-up companies, and reducing company R&D costs. Thrombogenix also supports the return of the tax concession to 150%, sales tax exemptions for capital equipment purchased by R&D companies, and exemption of these companies from the GST until they earn income.

Dr George Jessup

Dr George Jessup from Start-up Australia Pty Ltd outlined how venture capital had been the driving force behind the growth in Biotechnology and IT since their inception. These venture capital funds receive capital from institutions, largely superannuation funds, which invest for capital gains.

In Australia, development-stage venture capital is well funded but early start-up and expansion venture capital is minimal. Australia also lacks enough companies which would attract expansion funds ie those with a turn over of ~\$5 million and a high growth rate. Australian superannuation funds look at the VC manager's track record when deciding where to invest. Unfortunately, when the industry is immature, a VC manager investing in early stage won't have such a track record. In this case superannuation funds will examine how the VC manager is progressing on current portfolios. In the US, funds are nervous if the investing company is single-product-focussed. In Australia they are nervous if they are not product-focussed and it is difficult to raise money. At exit in Australia it is likely that companies will be sold by trade sale, because the Australian Stock Exchange is not giving appropriate value for these companies.

The tax regime is an important factor in VC funds' strategies. It needs to allow them to make the CEOs and senior staff of investing companies wealthy. Super funds need a "look through"³ tax system. Tax compliance and administrative costs need to be simple and the whole process needs to be fair, and equitable in terms of both industries and structures. Australia needs to realise that the tax system is part of an economic framework which develops socially optimal outcomes, mainly jobs and products for business, in addition to wealth creation.

The life sciences attract up to \$2 billion of government R&D money with biotechnology estimated to have an Australian Government expenditure of around \$200 million per year. The concern is that not enough of this research translates into Australian intellectual property, products and businesses. Universities need to develop a mechanism for spinning out research from their organisations. This research should be unencumbered, which was difficult for R&D Syndicates and is sometimes a complication with CRC arrangements. Nevertheless research institutions lead the way for this R&D to be translated into companies with long-term investment, which will have local flow on effects not only in jobs but also for exports and profits. A viable venture capital industry for biotechnology will only be created if we have entrepreneurs, institutions which are willing to invest indirectly, viable sources of second round finance, and optimal use of investee funds through both the tax system and their cost structure.

³ "Look through" or "pass through" structures are investment vehicles (limited partnerships in most countries, and some forms of trusts in Australia) which enable the returns from venture capital to pass through the investment vehicle and to be taxed in the hands of the private investor.

Mr Colin Calver

Mr Colin Calver from the Pooled Development Fund (PDF) program in ISR outlined the program and related it to the biotechnology industry.

The PDF program aims to provide patient equity capital to SMEs. Investees must have total assets of under \$50 million and the PDF investment must be at least 10% of the total shareholdings of the investee company. While there are 66 registered PDFs, only a minority have raised sufficient capital to be able to invest. Total capital raised over the life of the program has been \$279 million. Of this, \$115 million was raised in 1997/98. There are 147 investee companies.

The PDF can be very tax effective investments, although the effects differ depending on whether the shareholder is a superannuation fund or a “high-marginal-tax-rate individual”. Superannuation funds’ tax on PDF dividends range from 0% on unfranked dividends to 15% on franked dividends. High-marginal-tax-rate individuals also can have effective rates of tax ranging from 0% to 36%. Capital gains tax from the equity in the PDF for these organisations is 6% and 15% respectively.

In 1997/98 over 70% of investments through PDFs were between \$0.5million and \$2million (average \$1million). Most, however, were late stage with mining companies attracting 47% of investment, followed by manufacturing 15%, services 24% and agriculture 3%. Three PDF funds are targeted at biotechnology, but these have been unable to raise capital.

A number of PDFs are listed on the stock exchange but in general their trading prices are less than their net tangible asset backing because investors regard PDFs as high risk stocks and discount their share prices. Also, many financial advisers and stockbrokers view PDFs as cash boxes and do not recommend them to clients.

Dr Carrie Hillyard

Dr Carrie Hillyard, of Coates Myer and Company Pty Ltd provided a venture capitalist perspective on the implications of Capital Gains Tax for biotechnology commercialisation in Australia.

Coates Myer is one of the 5 registered IIFs and specialises in biotechnology. Dr Hillyard outlined Australia's operating environment, noting that it had good technology, good products and services, and a significant basic research. However, Australia also does not have sufficient early stage venture capital fund managers who understand biotechnology and so they are not willing to make biotechnology investments either in Australia or overseas. Australia has about 140 biotechnology companies, of which less than 35 are public companies. There has been considerable new start up activity with 21 new companies formed in 1998. Most new companies are in human therapeutics.

The factors which have inhibited the success of the biotechnology sector in Australia include the capital gains tax regime (CGT), which has inhibited investment by foreign super/pension funds. In the US, pension funds are zero-rated for CGT. There is a strong negative correlation in the U.S. between CGT changes and investment in venture capital by superannuation funds. The small size of Australia's VC funds is also inhibitory. In addition, there is a lack of domestic seed funding nationally, varied university support for biotechnology start-ups and a complete lack of understanding by traditional investors. The imbalance between capital supply and demand forces companies to move offshore prematurely, forces them to public markets, also prematurely, and may also force them to accept lower market valuations.

Dr Hillyard noted that the IIF scheme aims to kick-start the venture capital industry. However, IIFs have been unable to find significant foreign investment, probably owing to their small size and structure as well as the inexperience of most of the IIF teams. Further rounds of growth investment are likely to be required for all biotechnology investee companies and thus much larger funds will be needed for investments in growth.

Mr Dan Buchler

Overview of the Review of Business Taxation

Mr Dan Buchler from the Review of Business Taxation Task Force Secretariat, Department of the Treasury, presented an overview of the Review. The Review's terms of reference are as follows⁴.

“The Review will pursue the strategy specified in *A New Tax System* of consultation on the framework of this form of business entities and on the extent of this form of business investments, recognising the current problems and objectives for business tax reform identified in *a new tax system*. The process of consultation that includes an assessment of the design and the administration of the tax regime affecting business to identify their main shortcomings and their impediments to productive activity and innovation”.

“The Review will make recommendations on the fundamental design of the business tax system, the processes of ongoing policy making, drafting of legislation and the administration of business taxation.

“The recommendations will be consistent with the aims of improving the competitiveness and efficiency of Australian business, providing a secure source of revenue, enhancing the stability of taxation arrangements, improving simplicity and transparency and reducing the cost of compliance. The Review will adopt a comprehensive approach to reform driven by clear, sound principles involving a move towards greater commercial reality.”

The Review report date of 31 March 1999 is likely to be extended to the end of April. It is planned that the legislation will have effect from 1 July 2000, to bring it into line with the proposed introduction of the Goods and Services Tax. The Review has released a discussion paper entitled *A Strong Foundation*, which provides an overview of the process of legislative reform and policy reform in the taxation arena. This Review is available on web site <http://www.rbt.treasury.gov.au>. The Review will also release a further discussion paper in February, identifying the main subject areas for review. It is this discussion paper to which the ABA will be responding with a submission. Mr Buchler explained that the main principles which were relevant to biotechnology were as follows:

- taxation of comprehensive income, defined as current revenue less current costs plus changes in value of assets
- identifying when tax incentives should be given, i.e. after formal assessment, and only where they are assessed to be essential or are a superior form of government intervention.

Treasury's view is that there is little doubt that some incentives in the past have been badly designed and have had unintended consequences including cost blow outs. The Review will

⁴ P133, Discussion Paper *A Strong Foundation*”

look at the issue of trading off existing tax preferences against a lower corporate tax rate. Tax incentives and concessions are a cost to revenue and have implications on the objectives of equity and simplification, which are key objectives for the Review. Incentives also have impacts on economic growth and efficiency and on corporate behaviour. It must be questioned whether incentives are the best way to achieve particular objectives. Mr Buchler also explained that the Government's terms of reference included that any changes to tax regimes must be “revenue neutral”.

Syndicate Sessions

Two syndicate sessions were planned to address particular issues. Because of time constraints, syndicates only met once and the other issues were discussed by the group as a whole in the Plenary Session. A summary of the points raised under each of the four areas, in both syndicates and plenary discussions, appears below⁵. The discussion covered issues relating to both support of the VC industry and the biotechnology industry.

Establishing the Scope of Finance Needs⁶

It was agreed that it is not possible at present to estimate the current size and growth in investment requirements of the biotechnology industry. It is known that applications for *R&D Start* grants from industry are apportioned between manufacturing, IT and life sciences in the ratio 40:40:20. This is because industry does a larger proportion of Australia's manufacturing research, but a smaller proportion of Australia's life sciences research. Most of the life sciences research, particularly medical biotechnology, is done in public sector research institutions. There needs to be a mechanism for this R&D to be transferred into industry. One way of benchmarking Australia's medical biotechnology commercialisation activity would be to compare the ratio of NHMRC grants to Australian VC investments in medical and health sectors. This could be compared to the equivalent U.S. figure using data from NIH biomedical R&D funding and venture capital early stage life science investments.

Other gaps identified included knowledge of the scale of research in the public sector and a way of measuring the level of business skills in the biotechnology industry.

Options for Addressing Capital Needs⁷

Overall there are probably insufficient funds and insufficient skills in Australian VC funds to meet the financing needs of the biotechnology industry. A biotechnology firm needs \$20-\$25m before it can list on the stock exchange, but VC investments are typically a factor of ten smaller than this. These problems may be common to other specialised sectors and it was suggested that that government policy should focus not on biotechnology alone but on emerging high-growth industries. The target of "optimising growth" in the Review of Business Taxation (RBT) needs to be considered in this context. Similarly, the issue of equity in the RBT needs to be reconciled with the reality of international competition. It is of

⁵ Inclusion of issues does not imply unanimous endorsement and no votes were taken on the suggestions raised.

⁶ Discussion topics included current size and growth in investment requirements of the biotechnology industries of Australia and the ability of the Australian investment industry to satisfy investment needs of emerging firms.

⁷ Discussion topics included the need for overseas investment, the impact of CGT on the availability of venture investors and identification of other limits on availability of venture capital for emerging biotechnology firms.

no advantage to Australia to have a bullet-proof, equitable tax system if this means that it is uncompetitive in the international market place.

Options for addressing capital needs can be grouped into two classes. These are the availability of capital and the number and “investment readiness” of potential investees.

Availability of capital

The issue of CGT and its impact on the supply of overseas investors was discussed extensively throughout the meeting. Investment by overseas superannuation funds and others into Australian VC funds ceased in 1992 following changes to the limited partnerships law. Many US pension funds have large offshore funds but none of these will invest in Australia because the Australian government views the limited partnership as a company so the tax rate is 36%. It also taxes US investments into trust funds at the same rate⁸. This is despite the existence of a double tax treaty between the US and Australia. The resulting tax credits cannot, however, be utilised by overseas funds. The U.S. exempts its pension funds from tax, so any U.S. funds investing in Australia would have to make a further 36% return on their investment to be comparable to domestic investments. Israel also taxes venture capital gains from venture funds in some circumstances. However, if a fund exits an investment via listing on the Tel Aviv or overseas stock exchanges, this transaction will normally be CGT free. In addition, Israel has provided tax-free status to US pension funds. The UK has a taper system which progressively reduces the CGT of 40 per cent to only 10 per cent for investments held for 10 years.

Several options were discussed. It was agreed that Australian taxation system needed to be benchmarked internationally to ensure that CGT rates, rollover provisions and potential ROI etc were internationally comparable and that there was no disincentive for overseas VC funds to invest in Australian firms when compared to firms elsewhere⁹. It is better for overseas VCs to take a share in Australian firms than have the whole firm move offshore (see below). It was noted that an international benchmarking study was being completed as part of the RBT. Potential impact of a reduced CGT as against tax effects of increased growth needs to be modelled, using a reasonable timeframe, to support the argument for a reduced CGT. The biotechnology industry does not want a tax system that favours it preferentially, but considers that it is entitled to a tax system that doesn't penalise it more than other sectors.

Within Australia the need for improved VC skills was identified, including a capacity for co-investment¹⁰. This requires increased investment by super funds in VC funds in general, and

⁸ The Australian Taxation Office argues that preferential taxation rates in the U.S. need to be understood in the context of the broader U.S. tax system and that there are other components of that system which compensate for these apparently favourable arrangements.

⁹ Discussion revealed there is sensitivity in Treasury regarding possibility of granting concessions to overseas investors but not Australian investors.

¹⁰ "Co-investment" is the practice whereby several investors take equity in a new firm. The practice is common overseas and has the clear advantage of spreading risk for investors.

early stage investments in particular. Gatekeepers¹¹ also need to be educated. Larger Australian VC funds are also needed, so there can be some specialisation by funds into technology sectors. The government can support this process through tax incentives but a culture change is also required.

Supply of suitable investment opportunities

The supply of firms that are suitable vehicles for investment is an important issue. There are several needs here and it was recognised that any government programs established to support these needs must be both designed to facilitate monitoring and prevent abuse.

Firstly, the supply of entrepreneurs needs to be increased, either through government incentive or through actions of research institutions themselves. A key issue here is building the management strengths of the spin-off companies. Incubators were seen as a useful mechanism for supporting spin-offs from such institutions. The government could support the spin-off efforts of research institutions by establishing an entity to screen projects being placed into commercially-run incubators.

The ability to receive an adequate return for “sweat equity” is also important. In the U.S., companies receive favourable accounting treatment for stock options which results in a reduced taxable income for the company and an increase in the value of the stock, because it is recognised that the conversion of stock options to shares is part of the process of value creation.

Secondly, research institutions’ technology and IP needs to be commercialised in a way that is attractive to potential investors and enables them to obtain a capital return. This might include ensuring that IP generated through government grants is unencumbered and that granting agencies (Departments) do not insist on part-ownership. Some requirements placed on research institutions (e.g. “national benefit”) may be producing distortions in the commercialisation process. The Tax Concession for R&D is a critical part of the overall framework that encourages R&D once companies have been established, but it recognises expenditure on tangibles such as equipment more than it does skills in managing the process.

Thirdly, we need a way to turn around the trend of growth companies going overseas in order to meet their finance needs. This could include issues of corporate governance and reviewing the stock exchange rules which make it hard for Australian listed technology-based stocks to resist hostile takeovers. A Factor-f-like program was also suggested as a means of maintaining R&D in Australia. It was also suggested that a trade sale which results in exchange of shares from one stock to another should not be treated as a tax event, because it does not involve cash. This is another point where Australian practice diverges from the U.S. system (this issue has been explicitly picked up in the Ralph Review). Overseas acquisitions

¹¹ "Gatekeepers" are a small group of highly influential advisers who guide the investment decisions of pension funds and other institutional investors both here and overseas.

are another way of expanding market share and in establishing a base from which to sell into overseas markets. This activity was not recognised under the Export Market Development Program. The government could establish a new, EMDG-like program to refund part of the costs of acquiring shares in overseas companies as part of an expansion program.