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**HOUSE OF
REPRESENTATIVES**

STANDING COMMITTEE ON SCIENCE AND INNOVATION

Reference: Business commitment to research and development in Australia

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HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON SCIENCE AND INNOVATION
Wednesday, 2 October 2002

Members: Mr Nairn (*Chair*), Ms Corcoran, Mr Evans, Mr Forrest, Ms Grierson, Mr Hatton, Mr Lindsay, Mr Tony Smith, Mr Ticehurst and Dr Washer

Members in attendance: Ms Grierson, Mr Lindsay, Mr Nairn, Mr Tony Smith, Mr Ticehurst and Dr Washer

Terms of reference for the inquiry:

To inquire into and report on:

The international comparisons indicate that while the public sector in Australia supports R&D at an impressive level, business investment is less impressive.

With particular consideration of:

the R&D drivers in small and medium sized business;

the needs of fast-growing companies; and

the considerations by which major international corporations site R&D investment,

the committee seeks to address three questions.

What would be the economic benefit for Australia from a greater private sector investment in R&D?;

What are the impediments to business investment in R&D?; and

What steps need to be taken to better demonstrate to business the benefits of higher private sector investment in R & D?

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Committee met at 9.00 a.m.**CARLTON, The Hon. Jim AO, Chairperson, Australian Innovation Association****FOX, Dr James, Deputy Chair, Australian Innovation Association, and Managing Director, Vision Systems Ltd**

CHAIR—I declare open this public hearing of the Standing Committee on Science and Innovation's inquiry into business commitment to research and development in Australia and welcome the representatives from the Australian Innovation Association. I would like to point out to you that, while this committee does not swear in witnesses, the proceedings here today are legal proceedings of the parliament and warrant the same respect as proceedings in the House. The deliberate misleading of the committee may be regarded as contempt of the parliament. The committee prefers that all evidence be given in public but, should you at any stage wish to give evidence in private, you may ask to do so and the committee will give consideration to your request. Would you now like to make an opening statement before we proceed to questions?

Mr Carlton—Mr Chairman, with your permission, I would like to give a brief mention of what the association's objectives are but leave the introduction to Dr Fox, who is the expert in these areas.

CHAIR—That is fine.

Mr Carlton—Essentially, the Australian Innovation Association was launched on 4 July this year. It was started because a group of serious investors in R&D and serious practitioners were concerned that there did not appear to be a consistent framework for the propagation or support of R&D within Australia—that there were a number of successive changes in policy, with different political parties taking different views and with different budgets producing different results. Also, there had been some concern about the handling by the Taxation Office of R&D syndicates, which had caused difficulties with some investors and researchers. Overall, they wanted to get together a serious group of people who had a long-term commitment to research and development in Australia, with the idea of developing a set of public policy proposals which might be sold to all political parties at both state and federal government levels. This was so that there might be a long-term, consistent climate of support and encouragement and that it be intellectually and soundly based, with a view to what the best practice is around the world and how this might translate specifically into the particular requirements of Australia.

I was asked to be the inaugural chairman of this association for a number of reasons: I started out in an innovative firm in the manufacturing industry as my first serious 10 years in work; with McKinsey consulting for five years, I had a lot of interaction with innovative companies; I was a member of the Myer committee on centres of excellence, which gave the first grants to universities for large-scale research projects; and as Minister for Health I had a very strong association with the biomedical-scientific community, which continues to this day. For example, I am a guarantor member of the Howard Florey Institute and I have close associations with other research organisations. In addition to that, if one has political experience it is useful in developing policy. I had 10 years in opposition with a great deal of training in policy development, which unfortunately the public at that stage did not wish to take advantage of—except through the opposing government, which adopted most of those policies. That is my brief introduction of the association and its objectives. I would like to hand over to Dr Fox, who

introduction of the association and its objectives. I would like to hand over to Dr Fox, who is a very serious practitioner in this field.

Dr Fox—My background is that I run a public company called Vision Systems. We are a member of the association, obviously, and we are part of the foundation of the group. We are a company that is relatively unique in this country, because we in the last financial year spent \$30 million on domestic R&D. Out of our total revenues, 85 per cent come from outside Australia and all are based on investing in R&D, innovating, building product and selling high innovation-content products and services to mainly Europe and the USA.

We started the company in 1987 and we went public in 1993. We now employ 700 people. About 480 of those are in Australia. All of that has happened because we have used Australia's strongest asset, which is the intellectual capital of its people. Frankly, everything else swings against us. We have been out there doing it for a long time now—since 1987. If we look down the league table of companies that spend money on R&D, although we are a relatively small company we are in the top 12. In our weight for age we are the biggest hitter in terms of our willingness to spend on research and development in Australia.

A lot of that was seeded in the eighties through the policies that government put in place back then. I have to say that if we were getting started today we would not have got quite the same jump start that we got out of those policies. So governments can make a difference. At the centre of those policies was the tax concession for research and development. As I am sure many people sitting at this table have told you wherever you have been, the way in which that tax concession has evolved is certainly no longer quite the powerful tool that it was. I have some thoughts on how we can improve that.

Fundamentally, I am in favour of tax concessions. They have a bunch of things going for them that I think are good for public policy. The first thing is that the company has to spend its own money first; it is not going to the public and saying, 'Send us money.' The company has to make decisions to spend its own money up front. The second feature is that they have got to be successful, because a tax concession is only of benefit if you are profitable. All that happens from a company point of view through the tax concession is that the tax office and the public leave more of the cash that has been earned in a company that is demonstrably sending it around an R&D cycle and sending it into profits.

It is not up to government or public service officers to pick winners. The companies have to do that and they have to be successful for it to be a cost. If they fail and they are not profitable, there is no cost. There is a new twist to the tax concession which allows start-up sized companies to cash their credits in, but, in essence, the bulk of the spend on the tax concession requires people to be successful. I think that is a powerful feature because it forces companies to think about what they are spending their money on. It also forces them to think about how they are going to make money out of something before they spend money. All of these things are powerful modulators of what happens.

Unfortunately, the value of the concession has drifted down. That has happened on the one hand for good reasons, in that corporate tax rates have come down substantially. That is another way of leaving cash in companies: by giving them more discretion on where they spend their dollars. On the other hand, the tax concession rate and its structure have come down to the point

where we are down to about seven or eight cents in the dollar. When you get the flak that comes around from tax officers who go back eight, nine and 10 years to revisit R&D syndicates, the cost of compliance, the whole form-filling stress and just the general suspicion that is generated, it is almost getting to the point where a lot of companies just walk from it. I think that there are some things that we can do to fix that without cost to the public purse and improve the way it is.

Structurally, my view on the country is that, as a science country, we are pretty right. We spend about the right amount of money for our size and our place in the world—which, by the way, is about 1.7 per cent of the world's GDP. We spend about the right amount on the science side. We are way underweight on the business side. I am sure you have heard a lot of questions and had a lot of inquiries into the commercialisation of public science—on the CSIRO spend, the university spend, the National Health and Medical Research Council, all of the ARCs and all of the public science spend. There is a lot of stress about why we do not make more out of our public science and what is wrong with commercialisation. The answer always is to go to the science end and attack that, and pour pressure onto those groups to be more commercial or to pluck people out, when actually the problem is on the recipient side. The commercialisation process requires a critical mass of activity in industry and it requires a recipient of the size to be able to commercialise it.

It is worth noting that, in our company, in a normal year we budget to spend about 14 per cent of our sales on research and development. It is actually at 30 per cent at the moment, because we are having a big go at a couple of medical sectors in the USA. We spend about 22 per cent on sales and marketing, because, when 85 per cent of your customers are not in Australia, you have to have a massive infrastructure out there in sales and support. For us, the highest risk component of the business structure is the selling side, not the R&D side.

The fact is that, without that route to market and without the selling side happening, the commercialisation of public science just does not work. You can shove in all the incentives, push and pressure the science end, send money after money, and it will not change the success rate until you sort out the critical mass, the activity level, on the industry side of the fence. It all meshes into the public spend, as well as the question of how you get industry moving. It is the critical component in our mix. As an overview, I see sorting out, encouraging and getting expenditure to happen on the industry side of the fence as a win-win for the total science spend that government makes.

At the end of the day, people will often ask, 'Why bother? Why is it that business does not decide to do this itself?' The fact is that our culture has not generated that. If you look back over our history as a country, we have come from a very different direction by and large. We have been great innovators, great inventors, but we have been very poor at creating any kind of large-scale technical based industry. There are a few examples. Cochlear and ResMed are two immediate examples of success stories and our company is another, but, frankly, if you try to count up to 10, you are struggling. That is not really good enough, because we have the science and the skills, and we find that in our research and development activity we are about 30 per cent less expensive than doing the same work in the USA. We pitch and cost against groups that are comparable to us in the USA, so we know we are 30 per cent cheaper here. But the fact is that we are a long way from key markets. Our domestic economy is so small that even if you are 30 per cent cheaper you can never make a buck out of R&D in Australia alone. If you do not, from day one, have a mindset that you are going to sell most of your output outside Australia,

you are just not going to make it happen economically. I am afraid that very few companies in this country take a view that, from day one, they are global, that they are going to sell to people outside Australia. Therefore, the economics do not work. You just do not get the R& D return and therefore people do not spend.

So it is an attitude issue, and there is still a cost issue. My thesis is simply that, yes, start-ups are critical, yes, grant systems are okay, but you really have to try to grab the ones that are happening, accelerate those and create an environment where you leave more cash in the companies that are successful. As an overview, we have a lot of work to do in sorting out the BERDside of the picture. The science is okay and we ought to leave that alone, but we do not have BERD right. That is my overview.

CHAIR—Thanks very much. You mentioned the culture, and this is something that keeps coming up constantly in all our submissions and evidence et cetera. How do we change it?

Dr Fox—That is where you guys come in. You are our leaders.

CHAIR—That is why I asked the question.

Dr Fox—I think culture changes by example. It is a bit like a gold rush. Frankly, that is where our culture comes from; it is the gold rush mentality. We are a great nation for playing Tatts lotto and backing companies that drill holes in the ground—the penny dreadfuls—and we are actually quite happy that they go out there and do drilling programs, because there is the El Dorado mentality. We are a public company and we can watch this on the stock market. The most common advice I get from analysts—and I guess we should not use analysts as the benchmark of human behaviour, but they are part of my world—is that, from a SWOT analysis, one of our weaknesses is that we are a big R&D spender. That is seen here as a weakness. We had General Electric in our place last week, having a look at some capital stuff we are doing with them. They looked at us and said ‘Your R&D spend looks okay, but I wouldn’t let it drop any more.’ It is just like daylight in terms of how the financial community views businesses like this. And why is that? Because there are not enough examples of people making long-term wealth. A person who invested in our company in 1993, when we went public, had to sit there for 10 years. If they have sat there for 10 years, they have had a 20 per cent compound return on their money as a shareholder, but I have to tell you, in the first eight years they made absolutely nothing. When you are reporting every six months, the analysts are just about dropping you off the edge of a building.

Culturally, now we have got ResMed and Cochlear, we need more examples. What you have to do is accelerate the ones that are getting there. You have to put it out there by attacking kids in schools, by getting science and engineering up in headlights, and you have to have a look at the structure of university costs. It costs you more to do engineering than it does to do law—and that is dopey, because without engineers you do not have money to pay lawyers. So there are some things that can be done structurally at the education level. And I think we just have to tough it out and hopefully get more commercial examples through which will have people saying, ‘Gee, you can make money out of research and development,’ instead of seeing it as a black hole and a high-risk activity. As I just said to you, because I live and breathe it, my perception of it, where I put my fingers in my ears and shut my eyes, is the moment we send the products out into our sales networks in the US and Europe, and the highest cost part of that is,

literally, those offices. Because we are so far away from key markets and from decision makers, the stress that is on Australian companies is significantly higher than on companies that are sitting in the US and Europe. The fact is that if you are going to do research and development you have to be selling in those markets; you cannot make a return in this domestic economy.

CHAIR—Part of the culture problem that has come out constantly is the poor linkage between research organisations, whether they be established research and development companies or universities and industry. AIG yesterday released a report *Research and development: unlocking opportunity* and they gave us a copy at the hearing yesterday. It looks at expenditure and drivers in Australian manufacturing. In that report they showed that only about 24 per cent of manufacturing companies have any sort of relationship with universities, CRCs, CSIRO, whatever. Have you any thoughts on how we improve those sorts of linkages?

Dr Fox—Again, a lot of it is because we are doing the technology push thing, the science push thing. The question that needs to sit beside that is: what percentage of companies are spending more than two or three per cent out of their sales on research and development? I think you would find that it is a whole bunch less than 24 per cent.

CHAIR—It is, significantly.

Dr Fox—I will come to my views shortly on how you sort out the tax concession, but from doing that work a year or so back, hacking through the list, I think there were less than 20 companies that spent more than five per cent—some number like that—of their sales. It might have been even less than that; it might have been 10 companies. So if they are not actually in their heads spending money on research and development, why would they have a relationship with the science community when they just do not see it as part of their way of being in business? So to say, ‘Okay, we will just bias this whole system and you will only get a benefit if you collaborate with a university,’ is not the right way to go. You have to get people moving and distort the economics of the activity inside a company. Then they will look around and say, ‘Gee, we haven’t got the resource—how do we do this?’ and then you pull it through. That is the American model. If you are going to distort economics and get behaviour changes, you put it out into the field and then they pull through the resource that they want; whether it is from universities or collaborating with other companies does not matter, it will happen. But if you say, ‘Okay, let’s give some money to the universities,’ or ‘Let’s give money to companies only if they use universities,’ then it will fritter away because the fundamentals—that is, why are we even doing it?—have not come home yet.

So, step 1, it is impossible to get more integration and more commercialisation unless you have got activity happening in industry, and then they will say, ‘Wow, that’s fantastic.’ We have five or six collaborations happening at the moment. We employ 280 R&D folk in Australia, so we are one of the biggest R&D activities going round, and we are pretty self-sufficient, but we still bring in stuff from Flinders University, from Monash University, we are working with Peter MacCallum and with two or three others that I cannot bring to mind. Why? Because it is fundamental to us and we look at places where they can plug gaps. That is step 1.

Step 2 relates to the fact, as I have said to Geoff Garrett, the head of CSIRO, that organisations like that are pretty impenetrable to the outsider. Where you start is by looking down the list of companies who are R&D spenders. The number spending any kind of money

on research and development in Australia would be less than 100 of serious size, so it is not that hard to get two lots of 50 together in one place on a regular basis with senior people in CSIRO to just talk about what is going on on both sides of the fence, and then you will suddenly see things popping out. So there are public exchange mechanisms that CSIRO and each of the universities can adopt to accelerate knowledge exchange. But the fundamental issue is getting companies out there to be more active, because they will provide the pull. You cannot shove this stuff out to a guy sitting in a factory who has got no idea what to do with it. If you gave him a grant for \$20,000 with CSIRO what would he do with it? That is a duff way to go.

CHAIR—Part of AIG's research were some surveys on barriers to future R&D growth. Eleven out of 12 different sectors said the most important barrier is profitability. That fits with what you are saying. In your company, would it be true to say that the No. 1 driver for you doing research and development is the products you are selling?

Dr Fox—Yes. Our whole company was premised, back in the mid-eighties when we dreamt up the plan, on the fact that we saw that Australia had world-class engineering talent and world-class science talent but absolutely zero routes to market. When the government brought out its 150 per cent tax concession in the days when the corporate tax rate was up at 46 or 48 per cent or whatever it was—

CHAIR—Forty-nine.

Dr Fox—it looked like there was going to be an absolute sea change in Australia in terms of R&D, because in the early eighties we had been puddling around and we were absolutely on missionary sell every time we put our head up, and so we seized the moment. There was some venture capital that came on line, the MIC scheme came around, and suddenly we had venture capital and we had government policy. I had been trained in the US and Europe in a technology based consulting company so I had spent pretty much all my post-university days outside the country working in a space where it was routine to invest in R&D. It was just normal, and if you didn't you died—that was the attitude. It was just like investing in a marketing campaign, and they used to compete for money. I can tell you that it is easier to get an advertising budget through a board in Australia than it is an R&D budget. Everybody can connect with advertising. To try to prove that it makes you a dollar directly, one way or the other, is often difficult. But R&D is seen as high risk and is set aside. We take a completely different view: the R&D side is actually the more manageable part of the process.

Dr WASHER—You mentioned HECS. I am interested in that and the possibility that if we lowered our HECS for science, mathematics, engineering et cetera we would get more people into them. That is blown out of the water by a lot of people who say that kids who are surveyed about what areas they are going into say they are looking more for the job opportunities, the buzz and all those other things. I share your view about lawyers, so I will put that on the record—I knew what your view was from the innuendo—

Dr Fox—Until I married one I had the most sensational collection of lawyer jokes which I had to absolutely trash!

Dr WASHER—If the chair would let me I would tell you a few but I do not think you could print them. But the thing is that a lot of our scientists do not have job at the end of the day. You

go to the PhD level, and job opportunities are not good. That is one of the problems, so I think driving this is critical. FASTS—the Federation of Australian Scientists and Technological Studies—had an idea I would like to run past you. It was for the government to put in 50 per cent of the money for a couple of years for postdocs in companies—the company funds 50 per cent and we fund 50 per cent—to encourage scientists. It would be for about 100 a year. I thought it was a good idea. What do you think?

Dr Fox—I think it is a great idea. I will tell you the barrier to it. We actually fund two PhDs directly—we are paying for two kids at Flinders University. The biggest tangle was the IP, the intellectual property, in the project. As a company, we obviously want them to work in a specific area of interest to us. They have to publish or perish—they have to put together a PhD thesis and shove it out to examiners—and the university inherently owns the intellectual property rights. That is the baseline position. We actually did sort it out but it took 12 months. So the system is geared against that, and you have to sort out the IP chain and how you get examined in a space where companies are happy to put money. But our experience is that it is a good thing to do.

Dr WASHER—But these are postdoctoral, so—

Dr Fox—It is the same issue. Postdocs will still want to publish if they think they are not going off into industry. We have got one postdoc as well, and it was pretty simple because it is one of our own. We have a project running where we put him out of our company back into that environment to do a piece of specific work because the university has facilities and labs that we do not have. So, at the end of the day, the IP issue was a bit easier because we brought the project in, we are bringing the punter in and it is really a facilities thing. Universities talk the talk, but they are not yet really up to walking the walk in dealing with the IP thing and the publishing thing—which is a cultural thing on their side of the fence to get right.

When I went through engineering, back when steam engines were still part of the curriculum, we had engineering cadetships. BHP used to run 10 of them in every first year. There was an incentive program from the education department, or somewhere, that provided some of the bucks for the kids going through, and the company provided some of the bucks. You had to work for BHP for three or four years as part of your indentured exit. That just got people used to having engineers in their company. BHP is a bad example because they were engineering intensive anyway. But in terms of getting more kids in employment, if an employer knows that they are going to have a low-cost engineering resource for a few years, the uptake can be accelerated with that. I think that is really worth a look.

CHAIR—Lawyers wrecked that, because they found that a lot of those contracts to force people to work for the company were against something.

Dr Fox—Trade practices, no doubt.

Dr WASHER—In entrepreneurial type thinking, we have a major problem with ATO and Treasury. I will illustrate with an example. I came into politics after the 150 per cent tax was dropped to 125 per cent, but I thought it was a lousy idea and I asked why it was done. The answer was that the Treasury bureaucrats, plus ATO, felt that there was too much rorting. I guess that is a risk factor, right?

Dr Fox—Well—I will come back to that.

Dr WASHER—But I do not know whether the risk of rorting was as great as the damage we did by lowering the tax. In other words, we lacked a culture—and still lack a culture—of any risk-taking entrepreneurs within government. It is an ultraconservative, watch-every-dollar culture. I guess there is some justification because it is taxpayers' money. We really are not prepared to risk taxpayers' money. Quite frankly, even though you say that, I cannot see how we are going to have a mind-set in Treasury, which is, at the end of the day, the people with the holy bucket who determine where we put it. But I would like your comments on that.

Dr Fox—There were two components to the reduction. One scheme was the R&D syndication program, which was a subset of the 150 per cent. Step 1 was syndication, where you could actually bring in other investors and essentially take the tax benefits of the program and shift them out to people investing in. It was legislated and encouraged, and we participated in that. I have to say that about \$250 million worth of product sales outside Australia have arisen specifically out of those programs and yet we are currently under attack from the tax office, pulling out paperwork—as I was yesterday—from literally 10 years ago, and it is bizarre. So cases of rorting that went on, if it did go on, were cases inside syndication.

It is pretty hard to fundamentally rort the tax concession because the reporting requirements are pretty tough. They do field audits—not 'they' the tax office but 'they' the industry department. They come out and kick your tyres if you are a reasonable spender, if you get above their radar scope. It is pretty hard. I would struggle to think how to rort the tax concession on the R&D side, except for falsifying reports in terms of the R&D you are doing or not doing. That is pretty easily picked up—a field officer would pick that up in a snap—and there are not that many companies doing it. On the other hand, the benefits of the tax concession, I think, far outweigh that, even if that is a risk—and I think it is minimal under the current structure. I might take a minute or two on what I think we should do with the tax concession. Can I do that?

Dr WASHER—I would like you to do that.

Dr Fox—At the moment—and these numbers are probably a little out of date; just take them as rough orders of magnitude—we spend around \$600 million or \$700 million on tax concessions. Somebody in your secretariat can look up the proper numbers. I did this work about two years ago. If you look at the distribution of companies that are spending on R&D, there are very few that are spending at what are internationally competitive levels. Mostly, it is the ones, twos and half a per cents of their sales.

Look at what you are trying to achieve. You are trying to achieve companies that significantly base their business model on innovation and products and services that are using our skills as a community. By definition, they have to be selling them outside Australia. That is just a given if you spend money on R&D: if you do not sell outside Australia you are not here in three years time. So, as a given, you are going to get exports out of that, which means that you are going to bring wealth back to this country in return for knowledge going out in the form of packets of products or packets of services. So, if they are the two things that you are really looking for, out of that spin high-level jobs. We have created, since we started up in Australia, not quite 500 high-skilled jobs. We have got PhDs, engineers, technicians—all high-skilled jobs working in terrific environments, working on interesting programs and great projects.

If they are the three things you are trying to shoot for, how do you target a tax concession at the behaviour that you want to reinforce and go faster? By definition, the companies that are successfully doing that will be the bigger spenders on R&D as a percentage of their sales. You can take the same pool of money and weight it so that if you spend more than eight per cent you get a 200 per cent deduction, if you spend more than five per cent you get 150 per cent deduction, if you spend more than three per cent you get 125 per cent deduction and if you spend less than three per cent you get nothing because actually that is just background. A company spending one or two per cent would be doing that whether there is a tax concession or not—that is a fact, because it is just background level. Typically that will be in an industry that is not selling outside Australia—the company probably makes bread or sells car tyres here and that is about all.

Anybody who is spending six, seven or 10 per cent will probably have the characteristics of the companies that you are trying to encourage. So you take the same pot—and it is very easy to do the maths on this—and you reweight, given the density of companies that are behaving like that. Each year you can tweak that. If you want to fix it at \$600 million or \$700 million, you can tweak—it may be that in four years time it has to come down to 180 for above eight per cent. But you will find then that suddenly companies can plan. The biggest spenders will have more cash left in their companies to spend more. So you actually reinforce the behaviour and you start dragging people up. So somebody says, ‘Gee, if we spent a couple of per cent more we’d click our tax concession from 120 to 150. Boy, there is a payback there. I’ll do it.’ So you are suddenly reinforcing the behaviour. The cost to the purse is the same as it is now and you are not in the business of picking winners. I think it is a really simple reweighting of the tax concession to deliver everything you need.

The current program has obviously a 175 per cent layer for a weighted jump ahead: if you spend more this year than the average of the last three years, then you get a blip up. Our company spent \$30 million in the last 12 months, in the previous year we spent about \$20 million, so we get a terrific benefit but it is a one-year blip. This year we will go back to about \$25 million and next year we will hold it at \$25 million. So that is our steady state level, we think. For us it is a terrific one-year blip but it does not actually give you a lot—we have just treated it as not part of our long-term planning because it just is a blip, and all our R&D programs typically are two and three programs. So one-year blips are good to have but that is not really consistent with the nature and structure of the thing you are trying to encourage. So I see the simple reweighting of a tax concession as a way of putting a lid on.

The other problem they had with the tax concession was a potential for it to be open ended and run. They were sweating about that and that is why syndication got slammed. Syndication actually was a fantastic vehicle for getting start-ups happening, like us. We would not be where we are today without it; I can tell you that categorically. So I find the whole tax office push right now both offensive and counterproductive, but that is another fight and another issue.

The current tax concession leaves a bit of cash in for us, and we do it because we are a big R&D spender, but a 7c in the dollar benefit is not going to modify behaviour. Typically, 10c, 15c, 17c in the dollar is the sort of zone you have got to be in for people to go through the risk of filling the paperwork out, taking a run on the tax office not changing the rules and successive governments not mucking you around. On top of all that, the incentive has got to be up at that level. Obviously, to take it back to 150—in fact, to get back to the levels we are talking about, it

has probably got to go to 175 because corporate tax rates have come from 49 per cent down to 30 per cent; so, to get the same bang, you have got to be back at 175—across the board, that does not fit into the budget. So, what do you do? You say, ‘The ones we want to encourage are the ones that are already behaving the way we want them to and they are the models.’ Then you encourage people to up their levels of spending, you review it annually and you say ‘Okay, the tax concession last year cost \$100 million more than we budgeted for, so we had better tweak it down from 200 at the top level to 195 and see how we go—and 185, 170 and so on—and get people modulated up.’ To me it is so simple as a way of attacking the problem.

CHAIR—It is an interesting aspect, and I think we will have a look at some numbers on that.

Mr LINDSAY—You opened by saying that you saw the need for a consistent framework between successive governments. Then you have given evidence that really flies in the face of that. Why do you want to limit choices? Do you really stand by what you opened with?

Dr Fox—In what way are we limiting choices?

Mr LINDSAY—Well, if you have a consistent framework, then there is no opportunity to do other things.

Dr Fox—I see what you are saying. Adding things and modulating things is fine, but the backflip that happened when it went from 150 down to 125 was quite significant.

Mr LINDSAY—You are saying, ‘Don’t take away benefits that exist.’

Dr Fox—Well, if you are going to do it, telegraph it. If you are going to do it, give people time, because you have got R&D programs that are being planned at one level in a company—

Mr LINDSAY—Okay, that is all I need—I understand now where you are coming from. You said that Australia’s strength was the intellectual capital of its people and everything else swims against us.

Dr Fox—Yes.

Mr LINDSAY—Is it your advice to the committee that we fix the things that swim against us or we reinforce the intellectual capital? Meaning: have you thought about how the government might think about people rather than all the other issues?

Dr Fox—Yes and yes. I think we can fix some of the things that swim against us and I think, as a community, you have got to recognise the things that swim against us and the components of that that we cannot fix and distort some of the economics to get the benefits back on the people side. The biggest thing that springs to mind, if I look at barriers to commercialisation of our research and development or anybody else’s research and development, is actually at the end of the day getting a sale. Typically, that means outside Australia.

One of the biggest helps that a smaller company can get—and Austrade is probably one of the target places for this, and I know the state government in this town is doing it because we

are actually tapping into it a bit ourselves—is on-the-ground office and infrastructure support in, say, San Francisco, in London, in Boston, in Moscow: a place to land, a place to actually have a telephone number and infrastructure support while you actually get yourself off the ground. That might even be a long-term deal, because again you get clustering of like-minded companies and support networks. So it may be user pays—and probably is user pays—but it is easier and better than a serviced office, because you are right beside a service provider like an Austrade or a Victorian government state office that we are currently giving a little run with in San Francisco on our cancer detection equipment. It gave us an instant place to go. Even though we have an office in Boston with 40 people, the West Coast of the US is the critical health care market. So I think you can fix that. On the people side, I think you have got to encourage more take-up of the skills we have got.

Mr LINDSAY—Out of left field, you mentioned Austrade—and I am going to deal with the EMDG in a minute. Is Austrade excessively bureaucratic and should Austrade, in fact, be run by a private operation?

Dr Fox—Our experiences of Austrade in the last two years have been terrific, I have to say. There has been a makeover in Austrade. When we used to deal with them 10 years ago, they were bloody hopeless. We specifically used them in Russia in the last three months. They have been fabulous.

Mr LINDSAY—Your biggest risk was selling. Everybody in this room is a salesman. But when you look at the Australian scene and see the effort that we put in in terms of education and teaching people how to sell, there is almost nothing. People do not understand and the education system does not understand that we all need to have the ability to sell.

Dr Fox—I agree.

Mr LINDSAY—It is not a sexy thing at all—expunge that word—

Dr Fox—Salespeople are often seen as lower than lawyers. How bad is that!

Mr LINDSAY—Yes, but it is the key to the way ahead. Have you got any advice on what Australia might do about that?

Dr Fox—I could not agree with you more. It is really interesting. When we were recruiting in the US—and, as I say, we have 40 people in Boston—one of the difficulties in recruiting in America was actually sorting out the duds from the good guys, because they are all super slick presenters. It is obviously part of their education system. They are sensational presenters. They know how to stand on their feet, they know how to pitch, they know how to put the slides up. I had a guy who showed me a career path map and where we fitted on his career path map. I thought, ‘Gee, I just feel so privileged to be here with you!’ So, yes, I am absolutely with you.

Mr LINDSAY—So, as part of improving the situation of R&D in Australia, something that the government could do is look at the issue of selling. That is a whole new world. You say you cannot make a dollar out of R&D in Australia—and I understand why you have said that—so that is where EMDG comes in. Do you take advantage of EMDG?

Dr Fox—We did. We have passed our use-by date on that.

Mr LINDSAY—Do you think that program should be expanded?

Dr Fox—Yes, I do, although you start getting into Howe Leather territory, don't you? I think, as I said, the part that little companies and most people underestimate is how seriously difficult it is to sell outside Oz and the cost of doing that. That is why on the ground infrastructure support is a terrific thing to do and should be expanded as fast as it possibly can. The EMDG for us meant that in a year we could typically add an extra person outside the country, so it was very powerful for us.

Mr LINDSAY—In terms of intellectual property with universities, you indicated it took 12 months to sort something out. How can that be? If you are going to do some sort of partnership arrangement with a university, why can't you just get it right upfront—I do not understand what the impediments are.

Dr Fox—People.

Mr LINDSAY—Why can't you just sort it out?

Dr Fox—To be fair to some of them, it is not just people; it is also, in some cases, constitution. They have been constituted in a way where they do open research that has got to be for public benefit and public knowledge.

Mr LINDSAY—Does the government need to do something about that?

Dr Fox—Certainly when there is ARC money flying around and when there is research funding flying around, it has got to be made pretty clear—and I do not know whether you do this in black letter or whether you do this by coercion—that it is okay to have closed programs. Actually, we think it is a good idea to have closed programs if it means that industry is going to plug in straightaway.

Mr LINDSAY—That could be something our committee could recommend.

Dr Fox—You could distort the economics bit of that, maybe, because there has to be some compensation for not publishing. Their stepladder to success is publishing. I understand that; I spent 19 years in the university system, so I understand that side of it.

Mr LINDSAY—Working on steam engines.

Dr Fox—And I am very good at it!

Mr LINDSAY—This is my final question. We talked about open-ended R&D tax concessions. If tax concessions can be made to deliver benefits that far exceed the actual concession that was given, why shouldn't the government have an open-ended system?

Dr Fox—I agree with you. In fact, every study that has been around on the 150 per cent and the 125 per cent has said it has benefits far in excess of its cost. You have to take a bit of an economics view of it in terms of secondary benefits. I know that in our little company we employ 700 people but the suppliers to us of all the components and bits and pieces are another thousand people. So straightaway there are 1,700 jobs, not 700, just from what we do.

Every study that has gone around says what you say, but when you get line items in your budgets, I am sure if it went from \$700 million to \$1 billion and then to \$1.5 billion, people like treasurers and so on would come out in spots because they have actually got to wait maybe a year or two beyond that to see the benefits coming in in other ways: higher corporate tax payments ultimately, more PAYE because there are more jobs et cetera. So I am with you, but the reality of life, particularly when you propose a change, is different. From my side, in pitching that simple change that I proposed, if you leave it open ended, everybody falls away and debates the open ended, not the issue you are putting up. So it is better to say that it is not going to cost you any more but here is a way to make it much more powerful.

Ms GRIERSON—The tax concession argument works well for companies like yours, but it still does not address the problems of new companies, and you cannot stop them. They are all out there still wanting to discover that thing and invent that thing and make the commercial success out of it. Looking back to your beginnings, what do you think were the critical success factors that we should hold on to and what were the ones that were missing there that made it harder for you?

Dr Fox—The tax concession was critical to us right from the start—

Ms GRIERSON—Not based on sales, obviously.

Dr Fox—Well, yes; we went profitable almost in the first year. So it was critical to us right from day one. We started with five people in a shoe box in the south of Melbourne. The tax concession for us was important. It was also important because it was changing attitudes in industry around us.

One of the other critical elements of successfully getting companies like us off the ground is the infrastructure around. The car industry, for example, is a critical supplier to us. I cannot talk to the economics and the benefits or not in the big picture, but I can tell you that, from the point of view of getting components made—sourcing tooling and sourcing electronics—without other industries in your space, you really do not survive. So that is a critical part of the environmental stuff.

Ms GRIERSON—So how do you improve those links? Did you just tap into those because they were there?

Dr Fox—They are here. If you do not have them, that is a problem. So you have to make sure, at a government level, that you have the industry structure right. The second side of the picture is getting people to recruit into your company in terms of infrastructure. Again we went for a period where we literally went to Bangalore and recruited 12 people and brought 12 Indians back here.

Ms GRIERSON—Because the skills were not here?

Dr Fox—We could not get them for love nor money, and that was in the software area. That has changed now since life has gone a bit sad in the IT world—it goes in cycles.

Ms GRIERSON—No, but it is a problem that we come across in many industries—still looking for skills overseas.

Dr Fox—Frankly, in a company that is intensive in research and development, as we are, finding skilled research and development people in this country is very difficult. As a small guy, it is really difficult because you are a ‘no name’. When we popped up as Invetech and now Vision Systems, we put in an ad and people would not reply. They would say, ‘Who are they? If it were General Electric, I might apply.’ So, again, distorting the economics of recruitment for small companies of skilled folks is something that is worth thinking about. That is why I think a cadetship scheme is really worth having a run at.

Ms GRIERSON—Yes, and I think the country is worse off for not having that at the moment. From my reading of your lecture, it seemed that you have set up your R&D company now as a separate company.

Dr Fox—We have, yes.

Ms GRIERSON—What are the tax advantages? Why did you chose that?

Dr Fox—There are no tax advantages. The benefit of it is that we have, in our R&D activity, probably twice as many people as we would normally have. So we would typically probably need 100 people to do our own R&D. We have actually got 280 people. The 180 are actually working for other companies outside Australia, typically. The people who buy our services are either start-ups in Australia, well funded by venture capital—middle Australia does not—or companies in the US, which, typically, are our largest customer. So the benefits we get are the spreading of overheads. We get a much expanded technology platform base. Because we are 280 people, we can afford to have the latest tools and the latest systems. The third is that we get exposure to all sorts of projects which are beneficial to us and the projects that we are doing for ourselves are beneficial to our customers. Our largest customer is a major US corporation based in San Francisco. They have a \$30 million program running with us at the moment to create a drug discovery system based on DNA, which will go back to the US and be made there. In fact, we are going to make it here, but they will make the consumables in the US and it will be sold world wide. They have paid us \$30 million. They own the intellectual property, apart from a couple of the bits we have put in.

Why are they here? They are here because, first of all, we got their attention with a cost difference which just compensated for the distances involved. When I went to the final pitch meeting in San Francisco with the CEO and founder of this company—and this is a \$US2 billion company—he said, ‘Your people are fabulous, but I just do not know how we are going to work with you. You are so far away.’ There were two pitch teams: one team from Europe and us. We were on-site for four weeks and our guys won the pitch. In the end, the quality of the people plus the 30 per cent got him over the line. They have bought three more projects from us

since that time. Once they get here and see that actually we are not just a holiday destination with kangaroos and koalas then their eyes are opened.

Ms GRIERSON—So if you could not have got that cost differentiation right, could government have supported you in that as a one-off payment? Is there any way that that could be a system?

Dr Fox—Under GATT I do not think you are allowed to do that anymore. I think that is where Howe Leather got into strife, wasn't it?

Ms GRIERSON—Probably. It is difficult when there can be one factor which will lose the country quite a lot of money, isn't it?

Dr Fox—Yes. It is really important to have that activity here. We specialise in cancer detection equipment and we have just bought a reagent company in the UK for \$100 million which makes the high-value biochemicals which actually detect cancer in tissue. The fact that we are doing that \$30 million program for that US corporation which we do not own has given us a whole leapfrog in skills and knowledge that we are applying to our own cancer detection equipment. So it is of huge benefit to us. If I had my time over again, I would do it exactly the same way in terms of running our R&D as an external activity—absolutely.

Ms GRIERSON—Many of our submissions have dwelt on the issue of developing the IP and the difficulties of that. It is interesting that you have come from a university base and still at times have to access their equipment and infrastructure, which you cannot afford, that is linked to government supported research in particular. It seems that, although there are some good moves being made at the moment, there is still a lack of flexibility that is really holding back that interchange of knowledge which perhaps accelerates success. I think the cadetships example is good, but this flexible employment is a real issue. How do you get people to move between all these sectors?

Dr Fox—You have to give them a bolt hole. People sitting in research are not risk takers, otherwise they would have done what I did, which was leave and start a company. To be a risk taker you have to have a mind-set which is happy to have your house on the line. If they have not got a mind-set to do that—which I, having been through the stress of it, would never do again—then you have to provide them with a bolt hole. So if they come out and work for a couple of years and there is a spot back at base for them then that is fine. I come back to my fundamental tenet: the basic barrier is lack of activity out in industry. We can twist all the knobs we like on the other side; unless we get serious activity happening out there then the opportunities, even in start-up land, are significantly less. So much will flow from getting that right.

Ms GRIERSON—So just things like cadetships would really lock industry into a greater understanding and appreciation of the value of science.

Dr Fox—For a lot of companies that are just not willing to take the punt on it or do not know what benefits can flow, having a couple of kids come in would make such a difference. I know that once they have a couple of engineers on-site—which they have not had before—at half the cost then suddenly they see the benefit of it. I have no doubt that, at the end of their tenure, they

would keep them. So I think there is gearing out of that; it is not the main game but it is a bit of it.

Ms GRIERSON—You suggest summer schools that have a commercialisation or business type course base for scientists. Would it be better to lock that into the studies anyway?

Dr Fox—Most engineering schools now offer the options of commerce and marketing subjects.

Ms GRIERSON—Do they?

Dr Fox—Those are not formalised as core subjects but they are certainly available, and I would reinforce that. I think a lot of the science faculties do not do too much of that still; I know that the engineering guys are. I went out to this management consulting company straight out of university—before I did my start-up about eight or nine years later—and the best thing that happened to me was to be bounced straight out of the country and put through the wringer for about two to three months studying ‘finance for morons’, which is what I was in terms of the world of finance. At the end of that two or three month program, I literally had a totally different view of how technology would flow from science into industry and industry into money. So a bit of that sprinkled amongst some of the scientists would be good—not that we want to turn them into commercial people, because their skills are as scientists and we should not be hammering them to become commercial; otherwise they will not be good scientists. A bit of awareness of the language on the other side has to help.

Mr Carlton—I would like to interpose on that point. An old friend of mine, Mr Peter North, chairs the board of the Warren Centre for Advanced Engineering at Sydney University. Peter and I worked at McKinseys and we were in engineering school together many years ago. He has a proposal to set up a graduate school of entrepreneurship for engineers, because he says that the introduction of commercial subjects at the undergraduate level for engineers is largely ineffective. I am putting his views and it is worth asking him directly, but he has given me a model of a graduate school of entrepreneurship which would specifically target engineers. We have an engineering graduate here who had entrepreneurial instincts and, if there are a number of those and they were specifically exposed at postgraduate level to those ideas, he believes that would be a very useful thing. He has not found any university prepared to establish that or put the resources behind that as of now. I thought that might be useful.

Ms GRIERSON—My background is Newcastle where industry were incubators for skills and training in engineering and metallurgy for so many years. That is a layer that now is gone and it was a very rich layer.

Dr Fox—Absolutely.

Ms GRIERSON—How do we make industry the incubators of skills and training again?

Dr Fox—You need the activity happening. I am sure that industry demographics changed dramatically in Newcastle, which is why it has gone away. You need the industry activity and you need a few distortions economically to then encourage the uptake into that activity.

Ms GRIERSON—But I do not think we will ever see that scale again anywhere in the country.

Dr Fox—Not of that kind but, if you get it right, such as in the Monash cluster, if you look at the companies there—Varian, ourselves, NEC—it is a pretty engineering rich zone doing a lot of things that were not done here 10 years ago. On one little corner in Mount Waverley, there are 450 engineering and science people working in industry.

Ms GRIERSON—It is a delight to go into engineering manufacturing industries now and see robotics research and all the sorts of things that are happening. It is out there but at great cost.

Dr Fox—We have it but we just have not got a scale.

Mr TICEHURST—It is very refreshing to hear an enthusiastic person who is a practitioner in the field. A lot of the other people who have been before the committee have looked at it from the other side. A lot of the questions have already been asked but I am interested in the form filling side. That has always been a bane, a contention, any time you get involved in R&D or export development grants. The whole thing always necessitates a whole pile of forms that, to me, do not add anything to the strategic plan or business operation plans. You had a method of fixing them. How do you reckon you would fix that form filling to make it simple?

Dr Fox—The first thing we have to remember is it is public money so there has to be a trail to say that it is going to the right place, that you are going to do the right things and that you promise you will. That needs to be written down somehow in some way. I am relaxed that there needs to be something. There is no doubt the level of monitoring that is now in place in the tax concession—that is why I said before that the level of ability to rot that is just about zero—is pretty full-on but, in part, it is not a bad discipline where you have to have R&D plans and so on. All of us who fill out forms reckon that you could do something with that form and make it 20 or 80 per cent shorter and still deliver the key data. I am sure that, if the guys filling in the forms got a chance to design those forms, you would get a very different result to the guys sitting in the bureaucracy designing forms that they just shove out and do not fill out themselves. I am sure there are plenty of examples in all of the government paperwork you have to deal with. Mind you, industry is pretty good at it too. It is a size factor as well as which side of the fence. The compliance reporting for the tax concession at 7c in the dollar is a pain in the butt. Frankly, I am sure a lot of companies walk not just because of the paperwork side but because it involves you tangling with the tax office and the industry department in a way which, when you get noise like you get with them going back to rewrite history on syndication, just says, ‘Gee, for that level of benefit, do we really need to stick our head up on that sort of stuff?’ That is more of an issue than the paperwork side. I have no doubt, having filled out zillions of forms in my time for various government departments, whether it is the Bureau of Stats or applications for things, there is always a better way to do it.

Mr TICEHURST—I like your idea of their scale of tax. There, it is self-evident: if you are doing the R&D, it is there in your numbers. It ought to be sufficiently demonstrated that you are on target and that you are doing the—

Dr Fox—It will work. Trust me; it really will work.

Mr ANTHONY SMITH—One important point you made at the start that I want to take you back to is attitudes of company boards to R&D generally, because that cannot be overlooked. It is refreshing to see you make those comments in your lecture, elsewhere and here today. Given your association has just been formed, how would you view attitudes at this point in time? Do you think it has gone nowhere in the last 10 years? Do you think things are gradually improving? How do you get that rapid change in attitudes so that opportunities are not missed if government does play its role?

Dr Fox—I think in the last 10 years it has plateaued and flattened off. From the mid-eighties to the mid-nineties, it boomed in terms of people becoming aware of the role and of the place that R&D has in the company landscape. The fact that it was tax driven was excellent because of all the things I said before but also because the nature of it meant that that issue got to boards; it got air time at board levels. We saw a huge attitude shift in that decade. Since the mid-nineties, I have to say it has probably tailed off and dropped off the agenda again. That tax concession has a capacity to change how people think at board levels. At the end of the day, boards take a set of rules and make decisions in the context of rules to maximise return to the stakeholders. If the rules are a bit twisted one way or another then they will respond. Economic behaviour will drive the outcome in quite a short-term way. What you are punting, as a government, is that you start to get a critical mass and a halo thing happening where there are a lot of companies starting to do this. We are a product—a direct outcome—of that policy shift in the mid-eighties. I read the release and said, ‘This is it; this is the time to go.’ It can make a difference.

Mr ANTHONY SMITH—I thought your example about your situation, when General Electric or someone was saying, ‘You’re a bit on the low side,’ and analysts were saying, ‘You’re way too high,’ was particularly relevant. That sort of thing is obviously quite important. We have spoken about the reduction in the corporate tax rate, which was a huge reduction—49 per cent down to 30 per cent—and I think you have been saying that R&D was not seen as something being at front of the mind.

Dr Fox—No.

Mr ANTHONY SMITH—Is that because it has not been a traditional budget line like advertising or sales?

Dr Fox—Correct. And I guess there have not been enough models of people making pots of money out of it. We have not had a Microsoft for people to say, ‘Wow, you can make money out of this, big time.’ We need a few examples of companies making it. Self-selection will happen. As usual, if you look at the top 20 companies on the stock exchange from 20 years ago and at the top 20 now, you will see they are a very different bunch of people. Self-selection does happen. We are doing R&D not because there is a tax concession or a benefit. We spent \$30 million last year. The tax benefit to us out of that would have been in the order of \$1 million or \$2 million—that is, cash left in the company that we otherwise would have sent off to Mr Costello. We reinvest that. Okay, we would have spent \$28 million and not \$30 million. For us, philosophically—

Mr ANTHONY SMITH—You still have to spend it.

Dr Fox—it is more about the fact that we see we will make more money out of spending on R&D than out of not spending it, and that is why we do it. The fact that we get left \$2 million to spend means we spend more again. That means more benefits, more jobs and more exports. It is a virtuous circle for us.

CHAIR—In that last point, you have sort of answered a question I have had in my mind. As a government, we seem to have been almost criticised because we have dropped the corporate tax rate to 30 per cent, and the value of the tax deduction for R&D has been reduced. I am thinking, ‘Hang on; they are paying less tax.’ What about that?

Dr Fox—That’s true.

CHAIR—But the answer to that question—clearly, from what you said then in answer to Tony—is that corporations have got that extra tax break but they have not translated it into the mentality of, ‘Great, that gives us an opportunity to spend a bit more on R&D.’ It is sort of, ‘Great, this is a better profit that we can report to our shareholders.’

Mr ANTHONY SMITH—Or we can spread it amongst other traditional functions.

CHAIR—But we should not lose—

Dr Fox—No, the 30 per cent is sensational—no question.

CHAIR—It can be argued that the benefit in percentage terms is less. When you only see that argued, the perception is, ‘Well, you’re not really helping companies.’ But they are paying less tax.

Dr Fox—Absolutely.

Mr ANTHONY SMITH—You are not arguing for a higher corporate tax rate.

CHAIR—Sharon had one last question.

Ms GRIERSON—Yes, I have one last quick question. It is often said that we do not have a Microsoft, that we have not hit that height yet. It was interesting to see in a submission yesterday that someone suggested that, in lieu of a Microsoft, we still need our icon brand image organisations to be exploited to assist our marketing overseas. That person suggested—this is a bit political—that retaining identifiably Australian companies like Qantas and Telstra, which have that branding, that image around the world, was still essential to marketing success. How do you feel about that?

Dr Fox—If they mean that that keeps awareness of Australia more than sun, surf and koalas, then, yes, I am for that. If they mean that a software company that is battling to get going should go to Qantas and say, ‘Do you mind if we brand our product Qantas Software and take it out?’—probably not.

Ms GRIERSON—Until we get a Microsoft, I guess we have got to hold on to them.

CHAIR—Thank you very much for your time this morning and the evidence you have given. It has been very valuable; we appreciate it. We will send you a transcript for checking once it is available.

Mr Carlton—You might be interested in visiting the Vision Systems works out at Mount Waverley. I found it a fascinating experience. I have been to Silicon Valley and seen acres of brainy people doing things. You have got a microcosm of that out there. It is really worth a visit.

CHAIR—We will take it on board. This afternoon when the hearings are over we are visiting a pharmaceutical company. We will see if we can do that as well.

Dr Fox—If you wish to do so individually, you can do so at any time.

CHAIR—Thank you.

[10.10 a.m.]

DUCHINI, Mr Sergio, Partner, Deloitte Touche Tohmatsu

CHAIR—Welcome. I thank your company for providing the conference room yesterday and today and the other facilities. I know my colleagues have been very grateful for having mobile phones charged, receiving faxes, having Internet access and those sorts of things as well. We really appreciate it. Please pass that on to the people that need to know that as well.

Mr Duchini—I shall.

CHAIR—I would like to point out to you that, while this committee does not swear in witnesses, the proceedings here today are legal proceedings of the parliament and warrant the same respect as proceedings in the House. The deliberate misleading of the committee may be regarded as contempt of the parliament. The committee prefers that all evidence be given in public, but should you at any stage wish to give evidence in private you may ask to do so and the committee will give consideration to your request. Would you like to make an opening statement before we proceed to questions?

Mr Duchini—Thank you. I would like to make a brief opening statement which seeks to summarise some of the key issues and messages contained in our submission that you have before you, before we move on to a more free-ranging discussion of matters you wish to raise. It will be about a 10-minute statement.

Deloitte Touche Tohmatsu welcomes the opportunity to contribute to the House of Representatives Standing Committee on Science and Innovation's inquiry into business commitment to research and development in Australia. As a professional services firm with a deep specialisation in advising a broad range of clients in a variety of industries on all aspects of the R&D tax concession and related government assistance programs, we have sought to highlight the issues we and our clients believe are relevant to the questions posed by the committee.

Acknowledging that considerable analysis has been undertaken to date on the macroeconomic and microeconomic benefits of R&D on an economy, we did not commission or undertake a new economic study. Rather, we sought to contribute to this process by undertaking an analysis of recent studies focused on R&D, innovation and the needs of SMEs and presenting this summary, together with the broader policy implications, to the committee. In addition, we acknowledge and draw upon the findings of the following reviews that have contributed to this debate on the value of investments in science, technology and R&D as major drivers of a nation's economic performance: namely, the Innovation Summit and subsequent implementation group report; *The chance to change*, a review by the Chief Scientist, Robin Batterham; and the recommendations in the policy initiatives contained in the coalition government's Backing Australia's Ability.

There has been a number of economic studies that have concluded that there is a clear link between technological progress and economic growth, both at the level of the individual firm

and of the economy in general. One such analysis estimates that some 49 per cent of economic growth comes from technological progress. Another found that, for every one per cent increase in the nation's investment in R&D, there is an increase in productivity of some 0.23 per cent. The economic benefits that productivity growth can deliver to an economy include high standards of living, low inflationary pressures, improvements in the trade balance, value in the national currency and interest rate stability. More recently, economists have altered the way in which they construct and measure economic growth forecasts. This change is in part associated with the role afforded to innovation and technological change and has generated a shift in the economic literature from old growth to new growth theories.

The new growth theories examine the factors that drive innovation and R&D expenditure and contain attempts to quantify the contribution of innovation to economic growth. We submit that there is a significant implication for economic policy makers through the results of this work. This was highlighted in 1995 by the Productivity Commission in its review of research and development when it stated:

... these theories clearly imply ... that countries can, by employing appropriate policies towards R&D, maintain a growth path that remains above countries that employ inappropriate policies.

With regard to the inquiry's terms of reference, we have outlined what in our experience are the R&D drivers of small to medium businesses, the needs of fast growing companies and the considerations by which international corporations may site their R&D investment. To assist us in preparing this submission, we undertook a small survey of clients engaged in R&D activities in Australia to elicit their response to a range of questions concerning business commitment to R&D in Australia. We have been able to draw from the survey a number of anecdotal conclusions on the state of R&D in Australia, in particular some of the impediments to business investment in R&D. We believe that our respondents' feedback gives good insight to business opinion on current government R&D incentives, how R&D investment decisions are made by business and some of the key drivers of R&D investment in Australia.

The survey comprised 30 questions, which were electronically delivered to clients in New South Wales and Victoria. At the outset, we acknowledge that the findings of the survey are not statistically significant and have not been relied upon as conclusive evidence. The responses to the survey merely provide some insight into a range of factors influencing R&D activities in Australia. Our analysis of a range of the key drivers and impediments to private sector R&D in Australia indicates there is a broad range of factors influencing a firm's capacity and imperative to invest in R&D in Australia. These factors include but are not limited to the company's size and position in its industry, the industry itself, the relationship it has with its suppliers, its customers and its sales networks, whether it exports, the skills of its labour force, its profitability, the ability to access relevant training and access to capital.

We note there are a number of key impediments to private sector R&D in Australia. They are: access to appropriate funding; access to appropriate resources, including human resources; regulatory compliance and lack of stability in innovation policy. We note, however, that we are not in a position to assess the degree to which these factors negatively influence private sector R&D in Australia.

Moving on to the role of government assistance, specifically in the form of the R&D tax concession, R&D Start Program and the recently introduced R&D tax offset scheme: these are all observed to influence R&D activity, although we are not in a position to conclude on the degree of this influence. We highlight our recent study that indicates that the R&D tax concession does, to a statistically significant degree, positively influence R&D spending in a sample of some 1,848 Australian companies. Our survey also indicates that Australian companies are positively influenced to conduct R&D by the level of assistance offered by government.

Australia's historically poor performance in private sector R&D has been well documented. Currently, notwithstanding the recent increase in business expenditure in R&D, Australia is still well behind our international competitors in terms of business R&D intensity and has slipped from 14th in the OECD in 1997 to 20th in 1999. In addition, we note the recently released ABS statistics that business expenditure in R&D has increased by just under 20 per cent in the 2000-01 year, seemingly reversing falls in the previous three years and resulting in business expenditure on R&D in nominal terms at a high level. Whilst this increase is positive in real terms, the level of expenditure is still somewhat below the peak in 1995-96. We also believe it is premature to attribute this increase in business expenditure on R&D to some of the changes announced and contained within the innovation statement announced by the Prime Minister on 29 January.

We do acknowledge the recent legislative changes to the R&D tax concession and R&D tax offset, which we believe make a positive contribution in supporting private sector investment in R&D in Australia. We also acknowledge a number of the recent initiatives undertaken by AusIndustry aimed at assisting companies to gain a better understanding of compliance requirements underpinning the range of federal government incentives for R&D, together with facilitating the dissemination of information between AusIndustry, claimant companies and their advisers.

Specifically, we acknowledge and commend the following positive initiatives. Firstly, there is the holding of regular consultative committees whereby AusIndustry and the Australian Taxation Office representatives meet with interested parties to discuss the R&D tax concession, its administration, its effectiveness and the needs for change. Secondly, there is the preparation of a draft guide to the R&D tax concession which is now available on the AusIndustry web site. I believe this is an excellent initiative and, once it has been finalised, it will allow companies and their service providers to gain an improved understanding of the views of government on the working of the R&D tax concession. Thirdly, there is the AusIndustry visitation program, under which a commitment has been made by AusIndustry to visit all first-time registrants for the R&D tax concession. We believe this program makes a positive contribution towards enhancing the understanding among claimant companies of all the services offered by AusIndustry and has proved to be valuable to companies that are only beginning this form of relationship with government. The ongoing improvements to the AusIndustry web site also need to be commended. The web site is an excellent access point to a range of relevant data and programs.

Notwithstanding the positive direction of recent legislative change, we have also presented a number of policy and legislative initiatives for consideration and debate which we believe will further improve the effectiveness and efficiency of the R&D tax concession and offset. I will

summarise these for the committee. They are: minimise the compliance burden on companies seeking registration for the R&D tax concession; align the current R&D plan requirements for companies with R&D projects of less than \$1 million in expenditure with the current short-form schedule 2 requirements; increase the R&D expenditure maximum threshold for the R&D tax offset from \$1 million to \$5 million; increase the tax-exempt ownership threshold in entities seeking to claim the R&D tax offset from 25 per cent to 50 per cent; allow companies to claim the R&D tax offset in an amended income tax return as long as this is made within the 10-month period; simplify the calculation of the 175 per cent R&D tax concession by adopting the same thresholds for grouping as contained in the Income Tax Assessment Act; remove the exclusion of the non-labour related components in the calculation of the 175 per cent incremental component; allow companies to access the 175 per cent incremental tax concession immediately upon incorporation, without the need to wait for three years; replace the current requirements to have a consecutive three-year registration history with simply having been registered previously in any three-year period; reintroduce the base 150 per cent R&D tax concession; and reopen the R&D Start program as soon as possible. That concludes our opening statement.

CHAIR—Thank you for that and for the submission. Those things that you just went through that you think you could change: have you done any numbers as to what that might cost?

Mr Duchini—No, we have not sought to cost these changes, either individually or collectively.

CHAIR—The previous witnesses gave advice that they believed if you kept the pot the same but restructured the tax concessions you could more or less reward those companies that are spending higher percentages of their turnover in R&D, that they should have a higher tax concession. Do you think a change in that area would be beneficial to the sorts of clients and people you deal with?

Mr Duchini—It is interesting. If you move towards an R&D intensity measure, in effect you are saying that, to the extent that a company undertakes R&D and is successful, its turnover will increase. Therefore its R&D expenditure in real dollars has to increase relative to an increasing turnover. So if you are a successful company you will, by definition, have less access to a higher rate of return compared to a company which is less successful, because their turnover obviously will not increase. So I do not think a move to R&D intensity as such is necessarily a better way than the current static rolling average, for which turnover is not included in the calculation.

Mr TICEHURST—You say in your submission that the R&D tax offsets, the cash rebates, are unduly restrictive. A lot of your submission is based on the SMEs as well—an important part of the growth. How would you see the government policy change to give a benefit?

Mr Duchini—There are a number of changes. Firstly, let us say that the tax rebate is a positive step in the right direction. However, there are some preconditions before you qualify for the concession which I think are discriminatory. Let us look at the ownership issue where, if you have greater than 25 per cent ownership by a tax-exempt entity—call it a university—you are automatically excluded from accessing the benefit. A lot of the biotech industry is being born from companies spun off from Australia's universities, and they retain an ownership

interest in those entities because the universities are obviously trying to engage and increase their role in the commercialisation of technology. They do that by spinning off entities and keeping an interest in those entities. By their very nature, those entities have a minimal turnover, typically less than \$5 million, because they do not generate any income, especially at the start. They do, however, spend more than a million dollars a year. A recent study indicates that they spend between \$3 million and \$5 million a year on R&D to take a product to market, so that means that they are excluded. Also, the fact that the university has maintained an interest, not even a controlling interest, means that they are also excluded from the rebate. So if you are looking to fund entities and promote universities engaging in commercialisation, that limitation is unduly restrictive. I would remove that or at least raise the benchmark to a controlling interest, which is 50 per cent or more.

The other change would be associated with the expenditure thresholds. A \$5 million turnover is really the small end of town. I agree that this is aimed at that, but I think it is unduly low. Also, \$1 million per year on R&D is also, in our experience, not a lot of money when you are talking about the R&D that is necessary to develop and take either a product or a process to market. So we would look at increasing those thresholds.

Mr TICEHURST—How would that affect, say, small start-up companies?

Mr Duchini—You would have more small start-up companies being able to access the benefit.

Mr TICEHURST—Another point that has come out from some of the other submissions is that there could be a benefit for smaller firms in taking people out of universities and employing them so that they are able to bring out the latest technology. Do you see a benefit in that and how do you think we could approach that?

Mr Duchini—There is always a benefit associated with programs which stimulate technology transfer, and obviously one way of stimulating technology transfer is through people—it is probably the best way. Any incentive where you could lower the cost of employing a university graduate or PhD student by placing that skill setting in an organisation has to be viewed as a positive.

Mr ANTHONY SMITH—You might have heard our last witness talking about attitudes of business. You are ideally placed because you are interacting with the business community on a number of levels. A couple of points were made in earlier evidence, including the fact that attitudes in the business community have not always been that favourable to R&D compared to other spends on traditional areas—be it advertising, sales and marketing, and that sort of thing. I am interested in your impression on whether that is changing and what needs to be done to speed that up if necessary at a cultural level in the business community.

Mr Duchini—I would say that, in the 15 years that I have operated in this area, there certainly has been an increase in the awareness of the need for companies to continue to innovate and invest in R&D to maintain and grow market share. That has come from globalisation; with the improvements in technology, the world is a smaller place. The reduction in tariffs have meant that Australia has been exposed to more global competition. There is a whole range of factors impacting on business, small and large, which means that their

marketplace and their place in the market is increasingly under threat. The way in which you maintain or grow that market is to be able to differentiate, to show a value proposition. A lot of that comes from being able to appropriately fund and invest in R&D. Over the period that I have been engaged in this area, certainly businesses have increasingly focused on R&D and the importance of appropriately structuring R&D. That is at the board level and at the senior management level. There is a disconnect between the need and the acknowledgment of the need to undertake R&D—which is a commercial driver, I believe—and then you have the government incentive programs which are aimed at trying to support the R&D. They are not necessarily viewed in the same way.

Mr LINDSAY—Mr Duchini, I am going to try to convince you to change some of the comments that you made earlier, if I may.

Mr Duchini—Good luck.

Mr LINDSAY—It is in response to questions from the chairman based on earlier evidence that we received this morning. You sent out 180 surveys and you got back 20 responses. That is kind of a microcosm of the earlier evidence that business does not have enough interest in R&D. There is a very small take-up. In earlier evidence it was said that we have to fire up people and that they have to be selling overseas because the Australian market is too small and they have to spend a fair percentage of their sales dollar on R&D to be successful.

The chair put it to you that there should be a sliding scale of tax concessions so that the more you spend, the bigger the concession. The reasoning behind that was to try to get Australian companies to spend serious dollars on R&D because that is what drives the new ideas, products and exports. You responded to the chair by saying that that would not work and you gave a technical reason, which was probably right. Would you like to re-think that? If somebody spent 10 per cent of sales on R&D and, because of that, there was a sliding scale which meant that they got a very significant increase in their concession, surely you would not be opposed to that?

Mr Duchini—No, I am not. That was not my intention. My response to that question was really that when one bases the mechanics of the calculation purely on turnover—which we, as a firm, worked through when this was proposed—it means that there is a distortion to the allocation of the R&D tax concession benefit for those companies which either have a consistent turnover year to year or have a decreasing turnover relative to their R&D spend. If you are successful, there is pressure on you to continually spend more of that on R&D and I am not sure if that is a favourable outcome; it is open to debate. I believe that there needs to be a relative measure. You could have a simple average, as we do currently, of the three prior years, or you could introduce a turnover ratio measure. My view, and the view of other professions, is that the ratio is not the way to go.

Mr LINDSAY—That is a bit of a change in your position. Are you a formally qualified accountant?

Mr Duchini—Yes.

Mr LINDSAY—If there were going to be some sort of sliding scale concession, would you base it on turnover or sales? Is that the same thing?

Mr Duchini—It is almost the same thing. I will just digress for a moment, but I will answer your question. One of the things with the R&D tax concession is the need for consistent terminology. There was an assertion made yesterday that the R&D tax concession and related government incentives are simple and that business, basically, can deal with them. That is not the case. If you look over my shoulder you will see eight or nine professionals, and that is only part of the team that we have who are client facing.

The reason we have a need for those individuals is that it is difficult for business to deal with the R&D tax concession and related incentives. We act between the client and government to get the right answer. We only exist; it is not easy. I think that whatever changes are introduced need to be aimed at not only simplifying the current process but also consistency. We can progress this issue later on but there are number of inconsistencies between the R&D tax concession and the Income Tax Act which cause some consternation. One of our recommendations is to harmonise those so as to remove that issue.

Mr LINDSAY—Does that not happen because the government of the day needs to act safely and protect itself from somebody popping up in Senate estimates and saying, ‘You have a problem that allows business out there to rip millions of dollars off the taxpayer.’ Isn’t that the other side of what you are saying?

Mr Duchini—I am not sure whether the R&D tax concession allows corporates to rip millions of dollars off taxpayers. I think the rules are fairly robust. In my experience, corporates do not rip taxpayers off; they apply their best endeavours to try to comply with the requirement of the law.

Mr LINDSAY—Did I hear you say that you were from Arthur Andersen?

Mr Duchini—No, I did not.

Mr LINDSAY—There are some guilty looks down the back! I have one other question. Do SMEs really know what concessions are available from the government or is there a lot of misinformation out there? Should the government or somebody be doing more to spread information on what is available?

Mr Duchini—In our experience it is improving, but we are not there yet. There still is a lot of misinformation. Our practice continually approaches and is approached by SMEs which do not have an adequate understanding of what is available. They either perceive—probably incorrectly—that it is too difficult to claim the R&D tax concession or that the costs associated with initially going through the hoops outweigh the benefits. That is a fairly common initial impression. Our role is obviously to try to educate and dispel that. Whilst there are some complications, if you establish appropriate processes it means that in subsequent years it is a little easier to comply with. To answer your question, yes, there is a role for government to continue to push the advantages of the R&D tax concession.

Mr LINDSAY—Do you think that among your clients there is any understanding that the Australian market is too small—that, if you are going to go into R&D in the right way, you should consider dealing with the world and that people who produce new products and ideas should be targeting overseas sales, not just the domestic market? Do you think there is any realisation of that?

Mr Duchini—I suppose there is no single market. That observation may be valid to the medium to large end of town, but the smaller end of town do not set their sights as grand as that. I suppose their first objective is to get a foothold into the local market and expand that. That takes a lot of energy, expenditure and skill. Once that is overcome, they seek more fertile fields overseas but the small end of town—typically but not always—have a more local focus.

CHAIR—Do Deloitte promote what is available through your newsletters and various things to your clients?

Mr Duchini—We do. We have an active program that makes sure that our clients and our targets are always made aware of the benefits of all government programs. The R&D tax concession is one. We have a web site where we promote not only the skills of our people but also the programs that are available. We conduct regular breakfast briefings, and we have newsletters. We do our best to make sure that our clients—and also clients that we would like to get to know—are aware of what is out there.

Ms GRIERSON—The last point that was taken up by the chairman is a very important one. Would you say that the large audit companies do have a positive attitude to R&D in terms of advising their clients, or is it something AusIndustry should target as a program?

Mr Duchini—I think AusIndustry, whether officially or unofficially, is improving the linkages it has with the professional services firms. The big four, if you want to call them that, all have deep specialisations in R&D and government incentive programs. If you review their web sites, you will see that they all actively promote the benefits that are available there for their clients. In relation to forming closer linkages with AusIndustry, the consultative committees that AusIndustry has formed and the processes more recently undertaken whereby consultants and claimant companies are all brought together to discuss common issues are steps in the right direction. But that has only been in existence for the last 12 months.

Ms GRIERSON—I made the suggestion yesterday—and it is probably one that AusIndustry should target strategically—that every firm, no matter what size, generally has a financial adviser or accountant of some kind. Perhaps that should be a strong focus. With regard to some of your incentives and some of the reforms that are needed to make it easier, you mentioned relaxing the three-year registration of companies and their length of operation. Are there risk factors in that? You also say that they mostly fund their R&D on debt. Are there major risk factors that counterbalance that, or is it still worth doing it?

Mr Duchini—The observation of relaxing or removing the three-year requirement was really directed at the distortion that it introduces to new start-ups, whereby they cannot access the 175 per cent for the three-year period. They need to be able to access that benefit sooner rather than later, so it was directed at removing that distortion. I am not sure whether it introduces new risks

associated with the observation that SMEs typically use debt, as opposed to equity, to fund their R&D.

Ms GRIERSON—Do you have any suggestions regarding improving investment incentives and venture capital incentives for R&D? How do we make it more attractive to invest in that, to make moneys available just for that, by private investors?

Mr Duchini—It is a good question. There have been a lot of positive initiatives enacted recently to try to improve the venture capital market. One of them is a question of scale. That is a difficult one for government. The scale of the Australian economy is a hell of a lot smaller than what it is in the US and Europe. Therefore you will have fewer players in the market. That is just a consequence of the market. The legal structures that are currently allowed and utilised probably are not as efficient as they could be for tax purposes. There has been a call only recently to introduce concepts in the US of limited partnerships which will allow an alternative mechanism for funding VCs which will give the investors more of a deduction and so lower their costs and their risk profile. That is what is allowed in the US and that seems to be working quite effectively there.

Ms GRIERSON—In Australia should we make investment in property less attractive and investment in shares and companies more attractive?

Mr Duchini—That is not a question I am willing to answer.

Ms GRIERSON—Most people want to dodge that one.

CHAIR—You are not suggesting socialising property ownership, Sharon?

Ms GRIERSON—Not at all, no. Export is the key for our success in R&D and in economic growth. Do you see any specific incentives needed to assist companies to export? Besides our initiatives like Austrade and making it easier for them, are there other bonuses or incentives that could be put in place?

Mr Duchini—Obviously our ability to export into Asia is a function of the trade arrangements our respective countries have. I know that the tariff and non-tariff barriers that some of our trading partners have in place adversely impact on the ability of our clients to access their markets. There is a whole range of work that needs to be done there and the government is involved in that in trying to improve the trade arrangements and the rules which govern international trade, because that is an absolute key. One only has to look at the automotive industry and the success that has had over recent years in exporting. But its exports typically are into markets other than Asia Pacific, given the tariff and non-tariff barriers which exist in our region. That is just an example of some work that needs to be done rather than, say, increasing the export market development grant. That is capped at the moment. Whether or not you say we pour more money into that, that is one thing. I think you would get a bigger bang for your buck if we managed to improve the bilateral trading agreements between the countries and allowed business to sort itself out.

Ms GRIERSON—You stress location and Australia being marketed as a location for R&D and you say that that is an area that we perhaps should be looking at. I would imagine that your

firm would have assisted state governments with projects that did not get up, that chose to go somewhere else. Can you suggest any factors that we can impact on to make this a more attractive location? Are there any pull-together case studies or analyses of the ones that got away?

Mr Duchini—There are a number but, subject to confidentiality, I can't mention the clients. We are involved in this process on a reasonably regular basis. R&D is relatively footloose. R&D now is really an intellectual asset; it resides in the minds of people less so than it did in the past where it may have been tied to capital equipment, which may be more attached to a country or geography.

When corporations seek to site their R&D in Australia, they obviously take into account a number of factors, such as the broader tax environment, which includes the corporate tax rate. Australia is very competitive in that instance. They look at the ease in which they can move people between countries, but there are issues associated with the granting of appropriate visas.

Ms GRIERSON—I agree with you on that.

Mr Duchini—That is small stuff, but you are talking about people and what bothers them. So there are areas around that. The regional headquarter initiative, which improves and allows streamlining of visa applications, is an important incentive. Incentives that you get for the capital expenditure, the big spend in a particular country—that might be the establishment of a production facility or a technical centre—typically are the domain of state governments.

Ms GRIERSON—Infrastructure support.

Mr Duchini—They may give fast tracking of approval for buildings, help build the roads and the infrastructure et cetera or look to a payroll tax holiday—a whole range of things. It depends on how much money and employment are going to be attached to this initiative; how footloose it really is. Is it really Australia, Thailand, Victoria or South Australia or is it just a trial? The state governments are fairly good at working out what the truth is.

Ms GRIERSON—Do we compete too hard against each other?

Mr Duchini—No. I do not want to make an assessment on 'too hard', but there certainly is competition between states and that is probably healthy.

Ms GRIERSON—You think that is a benefit.

Mr Duchini—It is for the corporation.

Dr WASHER—Thank you for all these great recommendations. Representatives from the Australian Innovation Association gave evidence before you. They presented some horrific figures that we owe \$360 billion in private debt plus \$2 billion a month to service—\$100 million a working day, and I guess that is a five-day working week. That is a heck of a scenario. A lot of this came out of the late eighties by so-called entrepreneurs or innovators of the time. How can we direct entrepreneurship and innovation so as not to give us such a debt with such little return?

Mr Duchini—I am not sure whether I am the right person to comment on the connection between that current scenario and the entrepreneurs in the eighties which led to that. I am not sure if there is a sufficient or accurate connection, so I will not comment on that. You then asked for some recommendations on how we can ensure that the support currently given is going to result in a meaningful outcome and not just generate additional debt. The current safeguards or eligibility criteria contained within the R&D tax concession, the Start program and the rebate are fairly tight and robust. It is very difficult to rort the system. However, the concession, by its very nature, cannot guarantee success and there will be expensive failures. The R&D tax concessions and related incentives are meant to mitigate some of the financial risk associated with innovating and investing in R&D. I am not sure whether I have answered your question. The focus should be in putting in guidelines around eligibility. You cannot guarantee success. History has shown that lots of governments do not necessarily pick the winners either. It is very difficult to do that. One of the issues with targeted funding is an assessment of picking the winner. I am not sure whether governments are better placed than the market to do that.

Dr WASHER—That was just a preliminary question to lead into the next question. At the moment, we are looking at a subsidy of over 7c in the dollar from the government on the 125 per cent. You get a dollar for dollar tax deduction normally, so it is only the 25 per cent that comes into play. At the end of the day, if you look at the American or European models of some of the best investments where governments are motivated by tax offsets, what would we anticipate would be the return to Treasury over a period of time? Have any figures ever come back for us to go to the Treasurer and say, 'Listen, if you invest a dollar in tax deduction to these new research type industries, five or 10 years down the track we expect X amount of dollars to flow back into Treasury because of that?'

Mr Duchini—That is an excellent question. I am not aware of such a study from an R&D tax concession perspective. As a firm, we were involved in a similar study for ASIS. As part of the Productivity Commission's current review of the Automotive Competitive Investment Scheme for 2005 and beyond, there is about \$2.8 billion going to be thrown into the kitty for the next five years. There was some quite detailed economic analysis done: what will be the return to Treasury of that \$2.8 million? In effect, how would the multiplier of one dollar of ASIS benefit the economy? That study indicated that the multiplier was in the order of seven or eight times the investment, which was considerable. That sort of analysis has not been done for the R&D tax concession, so I could not comment on any multiplier effect.

Dr WASHER—Looking at the amount of money now going into superannuation in this country, but certainly also looking at the amount of money stuck in superannuation in the States in retirement funds, we made an effort to change capital gains tax and a number of factors to attract investment into R&D in this country. As far as I am aware that investment has been extremely poor, particularly out of America. It is about zero; it is really poor. Superannuation investment in this country into these types of R&D projects has also been extremely poor. Do you have any comments on that?

Mr Duchini—Not being involved in fund management, this would just be an observation as an individual. Obviously, superannuation funds tend to be risk averse when they come to making investments. The whole rationale for superannuation is to generate returns for people's retirement, so there tends to be a very risk averse approach to investing. R&D, by its very nature, tends to be on the other end of the risk scale, so I do not think you will ever see a

significant proportion of superannuation funds being put into risky investments. That is not to say, given the size of the superannuation pool, that you could not provide an incentive of one or two per cent—a percentage—which is directed towards funding these types of projects. That work needs to be done. You are correct in saying that there is a huge pool of money there.

Dr WASHER—Another issue is the reward. Let us say that we have set up an R&D company and that we have been successful, made our millions, and gone through the struggle. If we give options and they are fairly highly taxed, how would we treat that? Do you think it is fair to motivate companies to take the risk to do all these things? It is a high-risk venture. You have made your money; you have had a breakthrough. Do you think this country treats people properly in a tax sense when they have done that?

Mr Duchini—Again, it is a good question and there is always a question of degree. The recent changes whereby you can elect to only have 50 per cent of the gain taxed, assuming you hold the share or the investment for more than 12 months, is positive. This means that, at the top marginal tax rate, you are only taxing 25 per cent of the gain. That is good, and it is good in international terms as well. That is a positive. Has that gone far enough? I am not in a position to comment, but that change is certainly a move in the right direction compared to what we had.

Dr WASHER—Treasury at the moment are not filling the place with dough—we dropped a few bob. Getting more money for R&D would be difficult. I know what Treasury are like—they have a personality problem about compromising themselves. Years ago, when we were building infrastructure in this country, we had a bond market. We would take in people who were who were not so happy investing in the share market and investing in real estate that may go pop, as Sharon alluded to. Hypothetically, where we get investors in, do you think it would be wise for Treasury to open up a bond market for investment guaranteed backing—that we put into this kind of project for these kinds of incentives over the long term but with government guaranteed payback? Do you think there is any merit in that? If you were the Treasurer would you do that?

Mr Duchini—There is a lot in that, a heap in that. Before I try to answer that, let me say that a lot of the Treasury estimates—when they calculate the costs of the R&D tax concession—I think fail to take into account the implications of dividend imputation, which was alluded to briefly in our report. What it does, as you know, is lower their tax outgoings for a period, and hopefully that allows them to reinvest that into development. To the extent that they are profitable, to the extent that they pay that out as a dividend and to the extent that the R&D tax concession sheltered some of that tax, you have really shifted the tax from the company to the shareholder, so the tax is ultimately paid. It is only a deferral. It is not a true cost if you look at the economy globally. Even if the shareholder were a foreign entity, to the extent that that dividend is paid and it is not franked, it gets hit with withholding tax. So whenever you look at the estimates of costs to Treasury associated with the R&D tax concession, there is never an attempt to estimate the impact of dividend imputation. I always believe the cost is inflated, because the time frame is such that you do not take into account the true ins and outs of an economy. That money goes somewhere. That money ultimately gets paid to shareholders. If the R&D tax concession has sheltered some of that profit, that gets paid by the shareholder. I make that comment because I think it is important. In relation to the government entering into the bond market for speculative R&D investments, I am not willing to answer that one.

CHAIR—You commented on the interpretation of the definition of ‘innovation’ in the regulations to do with the changes that were made in a last couple of years; a number of people have raised that issue. Can you see a way to make that clear and succinct or do you think that, no matter what definition you put forward, the lawyers will have a field day with the interpretation?

Mr Duchini—That is true. As soon as you create an interpretation or a law, you are going to have people on either side of the fence. That is just human nature. Firstly, in the recent changes, the definition of eligible R&D activities was not changed, insofar as it was ‘innovation or high levels of technical risk’. There was an argument to have ‘innovation and high levels of technical risk’. The fact that we maintained the status quo there is positive, because there is almost some fatigue among corporates to do with legislative change. You have had GST then you had fairly significant corporate tax reform. You are looking at changes in R&D as well. It is just one change on top of the other. There is fatigue out there; it is almost like enough is enough. However, the guide which I alluded to, which is still in draft form and which has been prepared by AusIndustry in consultation with us and other professional organisations, is a step in the right direction. That guide seeks to provide tangible examples of what this definition of innovation actually is. A number of AAT cases have also provided their view. I think we are moving in the right direction. I would strongly recommend that it not be tinkered with it again for a little while. Allow people to come to grips with it. That stability is critical.

CHAIR—Thank you very much for your evidence, your submission and for the hospitality from Deloitte here for the last couple of days.

[11.05 a.m.]

ELLIOTT, Dr Mike, Medical Director and Vice-President, GlaxoSmithKline

GOSMAN, Mr Alex, Director, Health Care Environment Group, GlaxoSmithKline

McGOVERN, Miss Catherine, Manager, Government Affairs, GlaxoSmithKline

CHAIR—I welcome the witnesses to this morning's hearing. I point out to you that, while this committee does not swear in witnesses, the proceedings here today are legal proceedings of the parliament and warrant the same respect as proceedings in the House. The deliberate misleading of the committee may be regarded as contempt of the parliament. The committee prefers that all evidence be given in public, but should you at any stage wish to give evidence in private—that would be for confidential reasons, commercial-in-confidence et cetera—you may ask to do so and the committee will give consideration to your request. Would you like to make an opening statement before we proceed to questions?

Dr Elliott—I would like to make some opening comments for a couple of minutes. First of all, we welcome the opportunity to be here at this hearing and to discuss some issues central to our business. As a research based pharmaceutical company, we of course invest heavily in R&D both in Australia and around the world. I will quickly outline why R&D is central to our business and how that is structured; what the major drivers are for our multinational head offices, who are really the investors in R&D; why Australia needs to position itself appropriately to take benefit from this investment; and possibly how this might best be achieved.

I think it goes without saying that research and development is central to our business. The development and discovery of new medicines is really the heart of our business. We have to ensure that these medicines are appropriate to the countries and markets for which they are being developed and that involves developing them within those markets, not just in overseas markets. A wide range of research is undertaken by GlaxoSmithKline, from the very basic laboratory based discovery through to large-scale clinical studies. We conduct that whole range both here in Australia and also around the world.

To comment on how we decide as a global company which countries we develop drugs in, there are a number of drivers. The bedrock of that is the standard of research and development that exists within a country. It goes without saying that Australia is amongst the world leaders in this. There are also other items, like the economy of the country, some aspects of the market and business drivers within a country and also the clinical research standards both within GlaxoSmithKline and the R&D community. All of these drivers are interlinked. It is no good to just exceed capacity on one of those but have no capability on the other. They are all interlinked in a way. That is part of the complexity for a global pharmaceutical company in deciding which countries we develop our R&D programs in.

Australia is in competition with other countries around the world, but we have historically done very well and plan to carry on doing better. There are certain aspects that could help us do

better still and those are important. In our submission we demonstrated, I hope, the benefits of the R&D industry to Australia. The science here is world class; some groundbreaking medical and scientific discoveries have come out of Australia and we are proud of those. Some of the perceptions about Australia—geography is a small part of this, not a major part—need to be addressed and by doing that hopefully we can increase our R&D performance here in Australia.

To conclude, we hope to maintain our competitive nature and continue capturing R&D investment as we have done in the past to a greater extent. We want to look at all those perceptions and the drivers for investment and maximise those and stop the potential for R&D to go to other countries maybe with a different environment. That would obviously be detrimental. There would be flow-on effects, firstly, to R&D investment and, ultimately, maybe to the development and regulatory approval of better medicines here in Australia. Thank you.

CHAIR—In practical terms, how does it work within your company? If you know that the global company is looking at doing certain research and development, does the Australian operation basically put together a bid for your head office to conduct that research here, or do you see something in its infancy stage already in Australia and you want to then attract additional dollars to expand that research, or is it both?

Dr Elliott—It is both and it is complex. The system as it is set up is that our research bases in the US and Europe—by the book, if you will—would come up with new development programs and then would contact countries around the world for interest in those programs, looking at a clinical program as an example. However, if we just sat back and waited for that to happen, there would be a gradual decline as they would naturally focus on research sites closer to home—the US and Europe; they would tend to contact those the most. We are very proactive in making sure that we are well aware of what programs are coming up. The planning cycle is one to three years into the future. We are aware of how those programs match interests and capabilities in Australia and then we do what you described—a bidding process. We contact the head offices in the US and Europe, express our interest, describe our capability and, by reinforcing that cycle, we bring work over here. It is a continuous process. If we did not continue doing that, the work would gradually deteriorate. There are often many reasons for not coming here which are sometimes bogus reasons—‘The distance is too far’ and ‘We have not done studies there before’—and it is up to us to break down that barrier.

CHAIR—As part of that bidding process within the company, do you get assistance from government organisations like Invest Australia to help you put a case at all?

Dr Elliott—We do not get any such assistance, no.

CHAIR—You have not sought it? Are you aware that there may be assistance in that sort of situation?

Miss McGovern—I don’t know whether we have actually ever sought it, but there is limited help for that internal process, from our observation, rather than if we were actually competing against another company in a different country for the same process. If you are actually doing that there is the capacity to access more resources and more assistance through Invest Australia, but at the moment for internal processes it is far more difficult.

CHAIR—Do you see that there may be a role for some part of government to assist? It was put to us in evidence that part of the reason that Australia sometimes might miss out is more to do with perception than reality about certain circumstances that exist here in Australia. We might come back to that in a minute. The feeling I got from some of that evidence was that perhaps we were just not selling ourselves well enough. In a greenfields situation, I understand that government organisations like Invest Australia have a key role in doing that better, but perhaps they could also assist with the internal operations of companies to overcome some of those perceptions.

Dr Elliott—I think you are right, you could summarise the perceptions: the population is smaller, hence there is less capability for research; the distance is great; and maybe the organisation is not as good as it could be. If you look at the States or maybe the UK and northern Europe, there are very large, well funded research networks where you can plug in your program. There are quite a few examples in Australia. One example is that of Neurosciences Australia and Neurosciences Victoria, which is a group set up with government funding; it has a network of sites that will do early stage development and clinical trials in conditions such as depression, migraine and stroke. So we are using that within our company to say, ‘There is now a government supported network of world leaders in these areas. This would be an ideal place to develop our medicine.’ That is a very real example of where government funding and support has given us a very tangible message to talk about to our counterparts in Europe and the US.

Mr Gosman—I think Invest Australia tends to focus on that part of the production process after the intellectual development. It tends to focus on the physical application. Last year the government held the Blackburn inquiry into Invest Australia and Austrade which found that, essentially, we have a very fragmented, disjointed approach towards promoting Australia overseas and that we do tend to focus on our traditional industries and that the knowledge industries—biotech, pharmaceuticals, IT—tend to be downplayed somewhat and, as they are intellectual industries rather than investment industries, there is not a lot of focus. To be truthful, we are still waiting to see the CEO appointed to the new government agency, and we are about a year down the track now. Given how competitive it is for investment, those are some of the areas where we should be moving quicker rather than slower.

CHAIR—We heard some evidence earlier today that suggested that the cost of doing research and development in Australia could be up to 30 per cent cheaper than it is in the US. Although it is 30 per cent cheaper, it is only just in front when you take into account other factors. The evidence was that distance was a negative factor; we are a long way from markets et cetera. Have you got any figures in GlaxoSmithKline as to those sorts of relative costs?

Dr Elliott—On a simple cost basis, there is no doubt that we in Australia are less expensive than in the US. The figure of 30 per cent is pretty close to the number that we would come up with. The figure for Europe is probably of a closer margin—somewhere in the range of 15 per cent. They are hard numbers to come up with. There is no doubt that, for research and development, we are less expensive than the major hubs where work is carried on. I do not take distance as being a reasonable excuse for saying, ‘That makes your cost advantage disappear.’ I do not accept that as an excuse. I will tell many people in our company that. It makes it a little harder, but we should be capable of overcoming that. It is really just the natural tendency for the decision makers based in the US and Europe to use places that are close by and that they might

have worked with before. We find that once somebody starts working with a group in Australia, whatever that group would be, they continue working with them. It is initiating the relationship that is the key thing. A good example within our company is related to asthma. We have been running asthma studies in Australia probably for 15 years. We lead the world in recruitment of those studies, the standards of quality. Because the relationship has been set up and has been so outstanding, we need to spread that message throughout the other parts of our company—and we are doing that.

Mr LINDSAY—Are you aware of what government concessions are available elsewhere in the world to your company to participate in R&D?

Dr Elliott—I am aware of them but not the details. I might ask Catherine to answer that question.

Miss McGovern—There are a lot of programs set up worldwide and a lot of government incentive programs to locate R&D. Somebody who presented to the committee last week made a comment about the old SmithKline Beecham, which is one of our two heritage companies, and the location of our research facility which ended up, for the Asia-Pacific hub, actually being in Singapore. When it came down to that decision being made there was, as the presenter said last week, a shortlist of countries. Singapore offered things like training, access to postdoctoral students, easy visa capacities, the capacity for your children to go to school in Singapore more readily, then follow on to university and then actually stay in Singapore. I know that the person who heads this facility in Singapore has spoken to the chief scientist on occasion and used that example as something about which a very big decision was made. When he had to make a presentation to the then SB board about where to locate—it was about \$80 million worth of facility—he had no choice. All he could do was recommend Singapore. So there is that sort of program happening or being offered to get people into a country and then to keep them there.

Mr LINDSAY—Do you object to being called a multinational company?

Miss McGovern—No.

Mr LINDSAY—As a multinational company, is your evidence to the committee that arrangements that various countries around the world can provide do influence where you are going to site your resources?

Miss McGovern—Yes, that is correct. Equally, I think the committee should note the fact that yes, those offers are being made by other countries. That is not to say that that is the be all and end all. It is something to note that we are in competition with countries where those programs are being run, but Australia does have fantastic science and can compete on a scientific level.

Mr LINDSAY—In the written evidence provided to the committee, you said that there was a growing trend for companies to source their research expertise from outside companies. Do you do that?

Dr Elliott—Yes. In a clinical trials area, we use what are called contract research organisations to do work.

Mr LINDSAY—You do that in Australia?

Dr Elliott—We do that in Australia.

Mr LINDSAY—Do you use universities to do that?

Dr Elliott—Yes, we have 25 collaborations in Australia where university labs are running work in collaboration with us, basically.

Mr LINDSAY—I will come back to that. Do you use the CSIRO?

Dr Elliott—I am not sure whether there is a CSIRO project going on at the moment. There are some under consideration.

Mr LINDSAY—Do you use private research organisations, if there are any?

Dr Elliott—Yes, we do. We work with some biotech companies in Australia.

Mr LINDSAY—In relation to using universities, do you find any barriers or difficulties in dealing with research people? Do you find that they may not understand the imperatives of the commercial world?

Dr Elliott—I cannot think of any specifically, because a lot of the research I am involved in with those universities is really driven by the science primarily and if the science stands, everything else generally follows.

Mr LINDSAY—Why do you say that Australia is well placed to attract a greater share of international collaborative research?

Dr Elliott—I would say that, if you compare our scientific standards to those of the US and Europe, we are right up there with them. If you look at the amount of investments, we are way behind those countries. There are many labs and institutions here where I think we should be doing research and we can't attract that research out of our central groups.

Mr LINDSAY—Going to the issue of intellectual property rights, when you deal with universities, what would be your advice to the government on what we might be able to do to help you through that situation where people have got to publish but want access to the material? We heard evidence earlier today from a witness who said that there may be a case for private agreements to be done between parties. Even though government funding is involved, the point was made that it is very difficult to get the accountability when government money is spent on research then that research is not published. What is your advice to the committee about a model that would ease the way for you people but at the same time satisfy what the government's requirements might be?

Dr Elliott—I am not an intellectual property expert. I will make a general comment and maybe Catherine would like to be more specific. Of course, IP has to be managed very carefully, because that is the whole value of the discovery and whoever holds the initial rights to

that. Government could help in assisting with top quality advice on the specific case-by-case basis of how that IP should be handled to generate best value for all the partners involved: government, the academic institute and the pharmaceutical partner, if there is one, as well. Academics tend to want to publish quickly because that is what drives their performance, but if that is to the detriment of the value that their institute has developed, then it is really not worth while. My general comment is that the partners involved need to put in place best quality IP advice to maintain the value.

Miss McGovern—As you will note in the written submission, there is the concept that you do put postdoctorates or postgraduates through a process by which they do work for each of those groups so that there is a better understanding by researchers of the drivers that the government has, that the institutions have and that private companies—the biotechs and pharmaceuticals—have. So building a greater understanding by researchers about the use and the management of IP would also help in that dilemma.

Mr LINDSAY—That brings up your comments in your written evidence about research brokers. From memory they were in relation to overseas contacts, but could a research broker also deal with what you just spoke about?

Dr Elliott—I think the broad concept there is individuals who would cycle through various parts of—it doesn't need to be all of these—government, academia, universities and pharmaceutical industries, both onshore and offshore, and share the funding of that. There are a few examples of those. When those people come around that cycle they end up wherever they end up—in government, academia or even in the pharmaceutical industry—understanding very well all the other pieces of the puzzle, having worked there. As we are thinking this through, thinking of some of the very successful, well funded collaborations we have here in Australia, most of those are set up based on somebody who, at an earlier level in their career, has been around the cycle of Australia, the US and Europe, has met people and has kept that contact and brought it back to Australia.

Mr LINDSAY—Would you like to comment on the figures you provided to the committee of GSK's global rate of investment at 17 per cent turnover, whereas in Australia it is only four per cent?

Dr Elliott—Those are the numbers and that almost proves some of the difficulty we have in attracting R&D here to the same level as the rest of the company. The issues are around some of the perceptions of doing R&D here and those drivers around the marketplace and the economic drivers of pharmaceutical development. I think that is evidence for those facts.

Mr LINDSAY—A final question: you refer to the fact that you currently support more than 20 discovery projects. Can you give us a feel for what they are, how you set them up and how they work?

Dr Elliott—There is a range of those. The actual investment for those 23 was about \$8 million over the last 12 months. It ranges from very small lab, university based studies to quite substantial investments. Probably the largest one we have going on is in Western Australia in genomics, which is really looking at conditions such as migraine and asthma, looking at the genetic profile of people with those conditions and seeing if we can better target therapy to

people who might have more severe disease. We have a couple of collaborations with small biotech companies in Australia. We have collaborations with the universities across all the states, most of them being in Victoria and New South Wales. We are looking, for instance, at new approaches to diabetes, new approaches to asthma. There is a wide range—from very small to quite substantial—of collaborations. I do not know what the average is, but some amongst those have been running for up to five years. Generally the collaborations are set up for two to three years and then are extended. Most often—in fact, nearly exclusively—it is funded from US and European headquarters. We act as the brokers, the middlemen, to make sure the relationship is set up correctly and is managed as it goes along.

Mr ANTHONY SMITH—I am wondering if you could expand a bit on the comparison with the UK. Is it a historic thing that there is more R&D in the UK?

Dr Elliott—I am not sure which specific part is a comparison. Historically there has been more there. On a population basis, you would expect more to be happening anyway, but our company has always had a head office in the UK and that tends to influence more work to be had in that environment.

Mr ANTHONY SMITH—Is there anything specific in the United Kingdom incentives that you think have a major impact, or is it more the fact that traditionally that is where you have been based and the industry has been pretty strong there?

Dr Elliott—There are incentives there. I have not seen any metrics to see how those have impacted, but in the last two years or so there have been incentives that have been initiated. I have not seen at agency if that has caused an upswing in research or not.

Miss McGovern—I do not have data on that, but I can speak from a government point of view regarding the way that the pharmaceutical industry is viewed in the UK. The pharmaceuticals industry action agenda that has been run in the last year by the federal government, in conjunction with the pharmaceuticals industry, has been looking in Australia to develop a long-term strategy, a 10-year growth path, for the industry. This was done in the UK, I think about seven years ago. I could be wrong about that number, but I think it was in 1995. Those processes do tend to bring partners together, and you start to collaborate with the government on industry development, which of course does help to drive issues relating to R&D decision making processes.

Mr ANTHONY SMITH—That is quite important, so that is something we could look into further.

Miss McGovern—Yes, that is something we would certainly like to work more closely with government on.

Mr ANTHONY SMITH—It is not a specific measure; it is more a relationship, if you like.

Miss McGovern—It is a relationship within your operating environment that can make a significant difference to the way your company develops in a country and, therefore, can flow through into R&D decisions and also manufacturing decisions.

Mr ANTHONY SMITH—That is useful, because we have asked each of our guests here today about the culture of Australian business when it comes to R&D. Obviously, you are not in that category because so much of what you do is based on R&D, but in some of the other sectors in the economy there is not an instantaneous spend there compared to other things they do. But what you have just said highlights how it is not always one particular measure: ‘If only the government would alter X, Y, Z ruling.’ That is a bit like Kevin Costner saying, ‘If we build it, they will come.’ But other issues of government involvement can be just as important.

Miss McGovern—Yes. We can take that back to our headquarters, to say that the government in Australia is standing up and saying that pharmaceutical industries, biotech and the whole range of pharmaceuticals development are things that the Australian government values, and that high skilled jobs and high skilled research are seen by the Australian government as being important to the future. And, yes, that is important.

Ms GRIERSON—You say that listing, pricing and reimbursement processes are not so clear in Australia or conducive to, I suppose, maximising your revenue probably more than anything. Can you elaborate on that issue for us?

Dr Elliott—Focusing on how that impacts on R&D, if we feel we are seeing an environment where the process becomes unclear—from completing your research programs to having a drug approved and then priced—both in the actual process itself and in the timing, it leads to questions such as: ‘When the next research program comes along, there might not be a clear process in Australia. Do we really want to focus our research in other countries where this process is more clear and stepwise?’

Ms GRIERSON—What influences the price that you are given?

Dr Elliott—The price is given based on the clinical trials you have conducted and on an assessment of the cost effectiveness of your drug. The actual process for determining price is reasonably well defined. The timing that results in a decision seems, certainly over the last few years, to have become more tortuous and less clear.

Ms GRIERSON—Is getting listing on the PBS seen as winning the lottery in your field? How do you view that?

Dr Elliott—I would not say it was winning the lottery. Obviously, having our medicines priced and available to the public that needs them is to us the most important.

Ms GRIERSON—You talk about an Australian research brand and I assume you mean to assist the image, marketing and brand name that is associated with Australia. Do you mean something that works across the whole industry, no matter who the players are—something you all tap into?

Miss McGovern—I would say that that is not necessarily a purely pharmaceuticals or biotechnology focus, that it is actually selling Australia as a good place to research. Yes, you could split it down into different industry sectors. Certainly in the biomedical sphere, Australia is world class and at the cutting edge of science, and therefore we should be able to promote

that more effectively overseas to attract not only pharmaceutical investment but also resources from other institutions that are looking to partner with institutions globally.

Ms GRIERSON—I agree; I think it is a good initiative.

Mr Gosman—I think you could probably argue that a number of the state governments have been much more successful in branding their states as smart states—for example, Peter Beattie and here in Victoria—than we have been at the federal level. I think that is because there is greater understanding of the industry, what the drivers are and what the key markets are.

Ms GRIERSON—Is there an international example or equivalent to illustrate that?

Miss McGovern—At an international level, you tend to have—

Ms GRIERSON—Big success stories.

Miss McGovern—Yes. But if you look at, for example, the United States, you tend to have them at an institutional level. If you talk about Harvard University, people anywhere in the world think of it as being a centre for excellence. I think we have the capacity to sell Australia as a centre for excellence as a complete entity for science research.

Ms GRIERSON—You talk about research brokers and say that identifying those in all sectors of the research industry is essential. Do you already have a database of that? Do you all have your hit list that you are after? Do we identify them well enough? You would think that size might be a factor that makes it easier to identify them in Australia, but you are talking about cooperatives internationally.

Mr Gosman—We do not have a hit list, but I think we can readily draw up the criterion and means to access those people both within our company and in governments and institutions around the world.

Ms GRIERSON—Does government assist you enough to tap into that?

Miss McGovern—From a purely GSK point, at this time we have a person who works for GSK who carries out that research brokerage role for us in Australia but with other international institutions and with GSK globally, so as to actually broker deals—for want of a better word—which bring more GSK and other institutional investment to Australia as part of collaborations. We do not have any government support for that role, except for the fact that the pharmaceuticals investment program did help with the establishment of that role.

Ms GRIERSON—The benefits of collaborations must be quite massive, and one would think that might be an area where government could assist more in making those flexible arrangements more easy to access. You also tell us that you spend not as much on R&D as your company does internationally and you say in your submission you are exporting about 50 per cent of your product—50 per cent to the domestic market and 50 per cent to the export market. What is it going to take for you to boost your exports and your R&D?

Miss McGovern—From a manufacturing position, the pharmaceuticals industry at the moment is in a very interesting position. Worldwide we have approximately 30 per cent capacity utilisation in manufacturing plants. Over the next 10 years we will be looking at a global rationalisation of those plants. Therefore, some of the plants in countries will be closing and moving those manufacturing facilities to other countries. At the moment one of the things we clearly are committed to doing is making sure that GSK in Boronia is not one of the plants that is shut down and that it will grow significantly over time as other countries lose their manufacturing facilities. Positioning Australia as a good place to do R&D assists with that. Because the pharmaceutical industry traditionally does everything in a country—you manufacture, you do R&D, you do your clinical trials and you do your collaborations—that is a very important part, and having a good R&D base helps in attracting the manufacturing base as well.

Ms GRIERSON—Are production costs higher here? Is it still significant in terms of competing to keep these facilities here?

Miss McGovern—Yes, costs in Australia are high, but Australia also has a very highly skilled work force and a capacity to train a highly skilled work force. I was actually discussing this earlier in the week with our manufacturing director. The expertise of our staff here is world class, and that obviously impacts on costs also.

Ms GRIERSON—Is your collaboration with the Prince of Wales Hospital in Sydney on a commercial basis?

Dr Elliott—That is a research collaboration. We fund research in their lab.

Ms GRIERSON—For clinical trials?

Dr Elliott—It is more for early stage research. They are doing some pharmacology studies. Those are with volunteers in the pharmacology unit we have there. But also there is some pure lab based research.

Ms GRIERSON—What influences your strategic plan to retain your base here and grow it? Do you have autonomy over that or as an international company can the decisions just be made offshore and that is it?

Dr Elliott—The funding all comes from offshore. Ninety-plus per cent of our funding for R&D comes from offshore so the decisions are made there. But it is my job to make sure they are not autonomous and that we heavily influence those and keep on the good research.

Ms GRIERSON—Convince Iraq, yes. Thank you.

Mr TICEHURST—You say in your submission there is no national coordination of science activities. Do you think there is a role for government in that coordination?

Dr Elliott—I think government could certainly help. The example I mentioned earlier of this network, Neurosciences Australia—Neurosciences Victoria is the hub of that—has been funded

by government and has some clear objectives set out. So that is one example and other examples along the same vein would certainly help.

Mr TICEHURST—Also, you mentioned earlier that there is an impediment with the perception of Australia. Distance is usually thrown up every time but with modern communications that is a limited—

Dr Elliott—We hopefully get past the distance one quite quickly. The other perception that we were talking about earlier is the process for drug approval—really for drug pricing and listing. As that becomes more unclear it makes it harder for us to attract certainly clinical R&D.

Mr TICEHURST—What about the tax rebates for R&D? Do you see that as somewhat significant? Is that a big driver?

Dr Elliott—Certainly, if we are talking about the PIIP scheme, that is something that is an incentive to us. We like the focus. The research we do is the whole range of research, from academic lab based research—the pharmacology unit we have in Sydney; we are the only pharmaceutical company that has such an early stage high-tech unit—to the later stage research. So any incentives to make research such as we do—the broad range of research—more attractive certainly helps. It makes it much easier for us, both on a local basis and on a global basis, to tell people that bringing research here is a very good idea. You take the high level of scientific capability as a given—you have to keep on reminding people—but there are other things around that that help with perception that are very powerful.

Mr TICEHURST—You also mentioned this rotational program for researchers or PhD students. Do you see that as something driven by the industry or is there a function there where government could assist in that program?

Dr Elliott—My feeling is that will best succeed if it is a true partnership. If government was driving it and no-one else had bought in, it might not work; if we were trying to drive it and other people had not bought in, likewise it would not work. I think academia, universities, government and industry have to work in a true partnership and be committed to making that happen. Some of that will be funding from each party but really it is commitment in promoting that idea if the parties believed in it.

Mr TICEHURST—Fair enough.

Dr WASHER—You bought up the PBAC. I guess we ought to talk about that and some of the government restrictions on this. What you think of the PBAC?

Miss McGovern—I think the PBAC has served Australia phenomenally well. The PBS itself has provided over the years good and timely access to appropriate medicines at remarkably low cost for the Australian taxpayer and Australian patients. I think that is something that has been very valuable to Australia. I think that there is a myth, which I will mention purely to get on the public record that it is a myth, that pharmaceutical companies do not support the PBS. I think that the PBS is something that we all do support and it is something that we would not want to see demolished or taken apart piece by piece.

In terms of the current situation with the PBS and the PBAC, I think we all have a lot of sympathy with the government about budgets that do not add up the way you thought they were going to. That is a significant concern. As businesspeople, if our budgets do not add up the way they were supposed to, regardless of which way they go, you tend to be not very happy. That is no different for government.

The issue that I think Mike referred to earlier is about certainty within the process, transparency within the process, and having interaction about how the process operates—to give certainty to business that, if you do put in a submission, you have, firstly, a rough idea about when it will emerge from the other end and, secondly, what is happening behind the scenes that will make an impact on the decision you get. At the moment, I would say there is a high level of uncertainty within the pharmaceutical industry regarding both of those things.

Dr WASHER—You mentioned, as part of that, that it was incredibly low priced. Do you think we should lift our pricing with what we propose to do?

Miss McGovern—I think I said ‘remarkably’, not ‘incredibly’.

Dr WASHER—Currently there is a policy that if a drug turns out to cost the taxpayer more than \$10 million a year, it goes to cabinet. Is that the figure?

Miss McGovern—That is correct.

Dr WASHER—Is the cabinet process slow?

Miss McGovern—This process is a very new process. The rules regarding how a medication is listed on the PBS were changed late last year and again during the budget process. Late last year, shortly before the election, they were changed such that any medication over \$10 million had to be signed off by the finance minister, the health minister and the Prime Minister. Prior to that, I think the figure—and I could be slightly out here—was about \$20 million. During the budget process, it emerged that from then on any medication over \$10 million would go to cabinet for decision.

It is a very large line item for the government and, considering the overall cost of the PBS, I can understand that they may wish to make those decisions at that level. There is, however, a lack of clarity and a lack of transparency regarding timing of that. As you are aware, there are medications at the moment—we have one ourselves—that do need to go to cabinet for a decision, and we do not know when that will happen. As you can imagine, from a global perspective we have had quite a few questions asked of the local operating company about when that will happen. It is very difficult to continually say, ‘I’m really sorry; we actually don’t know.’

Dr WASHER—What happens in the US and the UK? You would have a big part to play there. Do they have a PBS-like system there? What is the mechanism?

Dr Elliott—They are a bit different. The US is essentially a free market and prices are set at a level that is reasonable. Prices in the US are higher, but that is more around the public’s readiness to pay, usually through private insurance. So the US scheme is not really government

regulated. In the UK, it is somewhat similar to the US in that the government will basically reimburse prescriptions for the great majority of the population. It does not go through a process such as PBS and PBAC, but it is mostly government subsidised via taxation.

Dr WASHER—I guess it is a growing concern of all governments that most new drugs, and particularly designer drugs, are incredibly expensive. They may be incredibly good, but they are incredibly dear. How long does the patent on a drug last?

Miss McGovern—It is 20 years from the time that you register it. In Australia there is also the option to extend that time by five years to reflect the fact that with pharmaceutical products, as compared with many other products in the marketplace, it is usually 10 years after we have registered the patent that we put that product onto the market. So your effective patent life in terms of marketing is only about 10 years.

Dr WASHER—Are visas a problem in Australia?

Miss McGovern—From my experience, we have not had any concerns regarding visas, but it has been mentioned by our head of R&D in Singapore, who expressed concerns about those. However, I do not know what the concerns were based on.

Dr WASHER—You spoke of Singapore, and that was my next example. Singapore has a smaller population than New South Wales; in other words, about the same population as Sydney or less. It is not that isolated, but it is still isolated from fairly wealthy economies—it is about the wealthiest per capita economy in the region. What are they offering? They have a corporate rate of 35 per cent and they have a 200 per cent R&D write-off on a tax basis, but what else are they offering to attract someone like GSK into the Singapore market?

Miss McGovern—The Singapore government actually does individual company based incentive packages, so it is about what you may need that they might be able to provide. That covers such things as education, training for staff and actually getting you access to staff in the event that there needs to be a particular skill—they will help train the staff or, in most cases, pay to train people in that area to actually boost the education and skills levels of their own population.

Dr WASHER—Do they have a sunset clause on that?

Miss McGovern—I think they do have a sunset clause on some of their training offers and on some of the tax concessions they make for, say, the first 10 years. I do not know the details of those, though.

Dr WASHER—My last question—and this is the real sexist one—is that at the moment we have baby bonuses and we are looking at maternity leave. You have a highly skilled work force and I guess a lot of them are female. Would they prefer those two things compared to, say, tax deductible child care? How would it affect the company?

Miss McGovern—I think I am going to be sexist and take this question. I do not think we have done a lot of research about what our staff would actually prefer in this regard. You are correct: having come to the pharmaceutical industry in the last few years, we do have a

phenomenally high percentage of females compared to anywhere else I have ever worked. We equally do have a very family flexible, family friendly environment in terms of being able to do flexible work hours, in certain circumstances being able to work from home or structure your hours slightly differently to allow for family responsibilities. I think that is something that does make a significant difference to how happy people are to return to the workplace after having children and their happiness in continuing in full- or part-time work afterwards. But, as to the difference between baby bonuses and tax concessions, I would probably get a few calls at work from people who disagreed with me if I made my comments clear on that.

CHAIR—What about five-year unpaid maternity leave and keeping your job open?

Miss McGovern—I think most companies would find that very difficult to administer.

CHAIR—Ken Ticehurst asked before about national coordination of science activities, and the Prime Minister's Science, Engineering and Innovation Council has a role in that respect. Do you have much knowledge of its role or anything that it could be doing that it is not doing?

Mr Gosman—We have focused a lot on the brokerage side and so on, but I do not think enough credit has been given to the government for what it did 18 months ago with its innovation statement. That was \$3 billion over five years into R&D, with a major focus on biotechnology that then extends into pharmaceuticals. You have got the Biotechnology Centre of Excellence, which is being centred on Monash, and you have got increased funding to the NHMRC. So, in a sense, I think the government has done a good job in terms of force-feeding a lot of R&D and putting a lot more money into education—establishing major scholarships and so on. So, at the end of the day, in terms of the 'deal flow', if you can use that expression, actually coming down the pipeline for GSK, the research brokers and so on to have opportunities, there will be more opportunities than if that initiative had not been followed. We really have not focused on that, but I think that was quite a quantum change in the focus in Australia on innovation policy across many industries, particularly the knowledge industries.

CHAIR—The sheer profile of the prime ministerial council as well is probably helping. I get the impression generally that there is much greater understanding and focus at the higher levels of government about science and innovation. The existence of this committee I guess is part of that as well.

Mr Gosman—I think Robin Batterham should also take a lot of credit as the Chief Scientist. I think he is a rare individual: he comes from a scientific background, he understands commercialisation, he is hyperactive and he is out there.

Mr LINDSAY—He just needs to comb his hair occasionally.

Mr Gosman—He is a good dancer, if you have ever seen him doing the foxtrot.

Mr LINDSAY—And an organist.

CHAIR—That is a good point. From my experiences, I think he has had a huge impact on the Prime Minister personally, and the Prime Minister's understanding and promotion of science and science related things is now very strong.

Mr Gosman—We have been talking a lot about promoting Australia's science overseas. The more of the Robin Batterhams we use overseas—he has got credibility with his colleagues overseas and presents a good story—the more successful we will be in increasing the understanding of Australia as a good place to do R&D.

CHAIR—I come back to the percentage of turnover of R&D. Has the four per cent that you have in Australia been fairly consistent for a while? Is it more or less than it was five or 10 years ago?

Dr Elliott—Certainly the amount of dollars invested in R&D has been growing at a quite healthy rate. I am not sure how that is as a percentage total. The R&D has been increasing—we would like it to increase more—but I do not know if our sales line has been increasing at the same rate, a slower rate or a greater rate.

CHAIR—Would we be able to get some figures on that?

Miss McGovern—Certainly.

CHAIR—I am thinking of whatever you can provide from a commercial-in-confidence point of view. Some of the evidence we have got this morning suggested that we should make changes to the tax concessions such that there is effectively an incentive for companies to invest a higher proportion of their turnover in R&D, at which time they would get a higher rate of tax concession. I would be interested in your comments on that. It is not really increasing the amount that the taxpayer is investing, but changing the way it is so that there is a real incentive there for people to increase their percentage. I would be interested in your comments on that, but I would also like to get an idea of just what has happened over last five or 10 years for GSK Australia and also globally—and that is 17 per cent. What has that 17 per cent done?

Dr Elliott—Globally, it has been very solidly in the 14 to 17 per cent range. It wavers a little bit, but it has really always been in the mid teens. I cannot answer that one; I do not know the Australian one.

CHAIR—But on that other matter of the tax concessions, do you have a comment?

Miss McGovern—In terms of pharmaceuticals, most pharmaceutical companies do not access in a significant sense the R&D tax concession, so I do not know whether it would impact us substantially. In terms of other industries, I probably do not have the background or enough information to comment.

CHAIR—Is that because of the specific scheme for pharmaceuticals?

Miss McGovern—Because of some of the specific criteria to access the R&D tax concession, we tend to not access it significantly, no.

CHAIR—Thank you very much for your evidence this morning. Thank you also for what we are going to be doing this afternoon—that is, lunch and a tour. A couple of the committee members unfortunately cannot make it—that is the way flights work; they have to take off—but

there will be four of us plus the secretariat coming along, so we appreciate your hospitality this afternoon.

Resolved (on motion by **Dr Washer**, seconded by **Mr Ticehurst**):

That this committee authorises publication, including publication on the parliamentary database, of the proof transcript of the evidence given before it at the public hearing yesterday and today.

Committee adjourned at 11.59 a.m.