THE JOINT SELECT COMMITTEE ON FUTURE GAMING MARKETS MET IN COMMITTEE ROOM 2, PARLIAMENT HOUSE, HOBART ON 28 FEBRUARY 2017.

Mr PATRICK CAPLICE, CONVENOR, REIN IN THE POKIES, AND <u>Dr CHARLES LIVINGSTONE</u>, DEPARTMENT OF EPIDEMIOLOGY AND PREVENTIVE MEDICINE, SCHOOL OF PUBLIC HEALTH AND PREVENTIVE MEDICINE, MONASH UNIVERSITY, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

**CHAIR** (Mr Gaffney) - Welcome, Patrick and Charles. All evidence taken at this hearing is afforded Parliamentary privilege while you are inside. Once you are outside the building that privilege ceases to exist. All of the script will be in *Hansard* and included on our website when it becomes available. If there is anything you would like to talk about in camera, we can arrange that.

Mr CAPLICE - First of all, thanks for taking the Rein in the Pokies submission seriously. Charles and I want to shed some factual light on a couple of areas that our submission and other submissions have touched on. I have got a couple of roles here. One is to do, as David Walsh did, to explain how the odds work. How the odds on pokies work, how they work for the gambler, for the punter, and also how they work from the operators' perspective.

I have another role as well. The submission was in three parts. At the end of the factual part of how the odds work I would like to refer to the third part of the submission. Rein in the Pokies tried to put the information that Charles and I are going to bring to you into the current political situation in Tasmania regarding pokies.

On one side of this document is an hourly loss chart. It is almost exactly the same as the one you would have received from Treasury, but perhaps a bit expanded. There is one difference: the Treasury one referred to the losses as theoretical losses. From a gambler's perspective these aren't theoretical losses; in real life they are expected losses. That is what you expect to lose. If a gambler goes in and bets at those odds it is what they expect to lose, as an hourly rate. It is not theoretical. It is expected.

It might be a bit semantic, gambler talk against statistician talk, but that is what happens in real life. It is not theory. It is expected. As those hourly losses accrue there is going to be some deviations as people take wins and losses, but the maths is undeniable; that is what is expected out of the odds of pokies.

The odds, particularly the betting intensity, affect different players differently. Players accrue losses at different rates and very dramatically. Why those different types of players exist recreational players, at risk players and problem gamblers - that is Charles' field. As Treasury's Jonathon Root said:

The machine designers are looking for something that gives the players the feeling of enjoyment in playing the game. One responsible EGM gambler's feeling of enjoyment, anticipation and so on, unfortunately, for a problem gambler is different in sensation.

The way the odds affect the losses of these various players, as detailed on the other side of the sheet I gave you, the Gambling Intensity Effect Sheet. You have been at this for a while, so

you have heard a lot about bet speed, bet size, the return to player and some other odds elements and I would like to touch briefly on each of them now.

The bet size - the \$5 maximum in Tasmania - is the lowest in Australia. The chart shows you how much can be lost at that under various scenarios, under various return to player and various speeds, but I have also included the more realistic figure of a \$1 bet.

Bet speed - players can bet every three seconds. That is 1200 bets an hour. The average player speed, as calculated in the 2010 Productivity Commission Report, is 654 bets an hour. Both speeds are important.

**Mr BACON** - In reality, can you play at that three-second speed?

Mr CAPLICE - Absolutely, Scott. You will have been, I hope, into some establishments and you will see people going bang as soon as the machine is ready, bang, that is three seconds. That is the speed a fast player, a player who is heavily into the game, will be playing. The 654 speed is the average speed, it takes speeds from the very fastest to the lady who is having a cup of tea, having a chat with her mates and who might only do 100 an hour. The average is 654. To make that average, you need the three times a second player. That fast speed provides intense gambling for a gambler. From David, in the written submission, that is betting the same money again and again. From a gambler's perspective that is intense gambling. Charles, I think, will have a different emphasis on what those words mean. He will relate more to the effect of the fast pace and its mental effects. For a gambler, for me, though, betting intensity is about the ability to put money down to bet fast again and again with the same money.

The return to player in Tassie is currently about 90 cents for each \$1 bet. The chart I have given you also shows the expected return for 85 cents for each \$1 bet and for 95 cents. I want break away from the factual matters for a moment and make a comment. The Tasmanian legislated minimum return is 85 cents per \$1 - that is the legislated minimum return. The pokies deed holder could, for any reason, drop the secret amount they are currently using of about 90 cents to that 85 cent level at any time without any recourse.

You have to remember it is incumbent on directors to maximise the returns to their share holdings. In a changing pokies environment Federal may decide that a quick killing is the appropriate course, as they did in 2003. Then the threatened to flood the uncapped pokies market with additional machines unless given an early deed extension beyond the then expiry of 2008.

I reckon the committee should recommend that the return to player currently in use - and members of the committee know what it is - should be set as the legislated minimum. Don't give the operator the opportunity to make a killing on the market because they see the market ending.

I understand that the Gaming Commission has the right to do that at the end of the deed which is now going to be 2019. They can say what the legislated minimum is now. I hope you recommend at least what is currently at play.

Back to the facts of return to player. Like two sides of a coin the return to player has a flip side. It is the house edge - the return to casino. Gamblers bet against a house edge. Our pokies return of about 90 cents for each \$1 bet gives Federal Hotels about a 10 per cent house edge. Let us say it is 10 per cent, and that is what I have reflected on the sheets. It doesn't matter what sort

of betting - flies up a wall, the lotteries, the TAB and bookies - the house edge is what governs the players' eventual loss.

David wrote about winning money playing blackjack. He used a statistical quirk in the nature of the game to play with the 1 per cent advantage. For David and for me - because I was a blackjack player - we were able to play the cards at a 1 per cent player advantage. But the usual advantage for the house is a half a per cent house edge. A half a per cent house edge returns 99.5 cents for each \$1 bet back to the blackjack player as compared to 90 cents in the \$1 for pokies players.

Other forms of gambling have worse house edges. Lotteries can be as high as a 50 per cent house edge - 50 per cent for the player and 50 per cent for the operator. But the bet speed is pretty slow. As you know lotteries are weekly rather than once every three seconds and the bet size is moderate.

Lotto attracts players because that 50 per cent return to player is limited to just a few prizes, prizes that have long odds but are very high. These are punters chasing the long shot, low cost dream. There is no comparison to pokies in the betting style.

The TAB return to player in Tasmania is 82 cents for each \$1 bet - an 18 per cent house edge. But betting the races is thrilling. You study the form, you place the bets, you watch the race, you wait for correct weight.

Even with a poor house edge and an unlimited bet size, that human element of involvement slows the bet speed down dramatically. There is no betting comparison there to pokies; it is a different beast.

The gambling that is similar to pokies - high speed and intense - gambling that keeps you betting that same money again and again - are casino table games. The speed and intensity are similar - the bet sizes can be much higher, I can tell you - but the house edges are very much lower. Rather than set by an algorithm, the rules and nature of table games set the house edge.

Blackjack, as I have mentioned, has a half per cent house edge, a return to player of 99.5 cents in \$1. Roulette, baccarat and craps are similar. Roulette with a 2.7 per cent house edge pays back over 97 cents for each dollar. Baccarat is up there with blackjack returning 99 cents for each dollar bet.

A 10 per cent house edge is a casino owner's dream come true. That dream becomes nirvana with the pokies gambling intensity with players betting the same money again and again. I just want to talk about betting the same money again and again, gambling intensity.

Why different pokies player groups exist is Charles' field, but different player groups do exist. I have grouped the players, as you can see on the sheets that I've given you, into three categories: recreational players, mostly betting the same money again and again and always betting the same money again and again. The percentages - 70 per cent recreational, 15 per cent always and 15 per cent mostly. These match the categories set in the productivity report as recreational, at risk and problem gamblers. The percentages of losses for each group are also taken from their report. How the players come to be in these groups, as I said, is Charles' field. My interest is in the how and why the odds affect these groups differently.

Pokies are probably the fastest form of betting ever made. The Productivity Commission has just 4 per cent of Australians as regular pokies players. That is about 16 000 Tasmanians. That 16 000 breaks down into 11 200 recreational players, 2400 at risk and 2400 problem gamblers.

Most gamblers are recreational. Players who don't have problems. They do it for recreation. They don't expect to win in the long run and you will often hear that you can't win at the pokies and recreational players know it is true. They look at their losses much the same as they would the cost of going to the movies, it is a recreation. Recreational pokies players, the majority at 70 per cent, give just 30 per cent of the losses. They know when to walk away. They can say to themselves, Tve lost enough for now', and walk away. That is their method of setting a personal return to player. The amount they are willing to lose in any given session or week they can say it and they can act on it. They know they can't beat the pokies, but they can pick up the occasional win and may well pocket it or take the family next door for a meal in the pub bistro. They are gamblers and they love a win, and wins are good, I tell you, when you are gambling.

It is the same for casino table players. Most are recreational players; blackjack players, roulette, baccarat and craps players all play knowing that the house has an edge, and occasionally it gets twisted. Hoping that this time, this weekend, this trip, this will be one of the winners, they are positive fluctuations. They know the odds are against them, but they also know that they will win every so often. They also know that the casino they are being 'comped' in - the shows, the food, the booze, the airline tickets all the little things - they are not free. They are paid for from what the casino expects to win from them and the casino will, even at a low half a per cent house edge. The player knows that low half a per cent house edge makes it a closer and longer tussle and they can walk away with the occasional win to celebrate. I have to tell you in a casino those wins are celebrated and quite often with the casino still picking up the bill for the celebrations even though they have lost. Casinos are really confident of house edges.

Recreational gamblers, at 70 per cent, the majority of pokies players, are generally unaffected by the machine's intense gambling, that betting the same money again and again. They can say, 'I've lost enough', and walk away. Their loss or the time spent in the case of a win sets for them what is an acceptable return.

The cause of the problems for the other 30 per cent is for others to tell. The effect of pokies odds and gambling intensity is pretty obvious, though, when you look at the sheets that I have given you.

I have defined a recreational player as one who can walk away when they say, 'I have lost enough for now'. Gambling intensity does not affect these players or the fast loss rate or the high house edge but it has a big effect on the other two groups. At-risk players, 15 per cent of players, have great difficulty saying, 'I have lost enough for now' and then walking away. They mostly end up betting the same money again and again, including the money they get back through the return to player as well as any prizes they win along the way. They mostly end up continuing to play. They are valuable players for the operator. That 15 per cent give 20 per cent of the losses.

Problem gamblers, the 15 per cent that I am sure Charles is going to convince you are completely addicted to the machines, cannot say, 'I have lost enough for now', and they cannot walk away. This 15 per cent always continue betting that same money again and again. This 15 per cent give 40 per cent of the losses. They play all their stake, the money that they come into the pokies pub or the casino with. They play all the return to player, plus any wins they pick up along the way. They are the most valuable players for the operator. Just 15 per cent giving 40 per

cent of the losses. If a player can walk away when they have lost enough the odds are no problem. For 70 per cent of players the odds are no problem. If the player has difficulty walking away or cannot walk away they are going to lose and they are going to lose heavily.

**Ms DAWKINS** - I thought that was a fantastic presentation. Do you want to give us a little bit of your history, of how as a gambler poker machines became something of interest to you personally?

Mr CAPLICE - I grew up in Glenorchy and before I was a gambler I did many other things, including being a chef. Before that I was a labourer working in various places around Glenorchy. I played football for Glenorchy. I was a chef and I worked for four years at the Carlyle at Derwent Park, so I know Glenorchy very, very well. I was also the junior mayor of Glenorchy when I was at school, which I am proud of. I know Glenorchy and I know it well. I know what sort of town it was when I grew up and where I spent my early adulthood. I saw the effect in about 2000, the pokies were introduced there in 1997, and I could see the effect immediately of what was happening. Every single one of the pubs that I grew up, and I grew up in them all, is now a pokies palace. There is not a social area in the place, and the intent of them is to rake money out of people's pockets and I could see the effect of that.

Around that same time I moved out of my career and started playing blackjack fairly successfully, with a fair bit of luck. About 1 per cent of luck. I took an interest in the extension of the licence. I came along when Greg Farrell spoke to the PAC looking into the extension. I just looked around and I thought, 'Man, this is the worst governance I have ever seen'. I play cards in places where there is good legislation. In Vegas you cannot do anything, it is very tightly controlled. I played cards in Turkey where the Mafia ran the casinos and the comparison that came to my mind is that the governance here in Tasmania is the same governance I have seen in Turkey, not the governance I have seen in Vegas. I came at it from two aspects. The very poor governance and the extreme effects in my home town. I have just followed them through. Because I know how odds work I know it is just impossible to have any success on these machines. If you sit in front of them you are going to lose the money. With that interest I started doing my own research and before I fortunately, fortuitously, met Charles last year at the same time you would have, Mike, when he spoke downstairs, I knew already many of the things he had said to be true. I know that they stink. I know that they are having a huge, terrible effect on my community. What an opportunity it is now to be able to do something about it.

Ms DAWKINS - We heard from one of the submitters in the first week that poker machines have a high proliferation in lower socio-economic suburbs because that is where the people live who like poker machines. What would you say to that?

Mr CAPLICE - Poker machines are in the areas where they are going to extract the most money. That is quite simple. Where the money comes into the machines is where the machines are going to be. Why that is so, why lower socio-economic areas is not really my field. I don't know why, but I tell you they are there because that is where most of the money is coming from that goes into the machines. They are not in Sandy Bay. There are very few in higher socio-economic areas; perhaps it is a matter of education, I don't know. You might better direct that to Charles.

**Ms DAWKINS** - We also heard from the Gaming Technologies Association that it is almost impossible to play every three seconds and that is just not something that happens. Yet you have

given evidence today that contradicts that. What would you say about the evidence Gaming Technologies presented?

Mr CAPLICE - I would take with a grain of salt most of the evidence that the GTA, Ross Ferrar, gave to you. An example of that would be his headline claim that Australia has 2.5 per cent of the world's EGMs. It is true, completely true, but it is extremely misleading. If you go deeper into his submission he provides a breakdown of the type of electronic gaming machines there are throughout the world. If you get down into that little addendum that is not highlighted you will find that Australia has 20 per cent of pokies. There are six categories of electronic gaming machines. Sure Australia has 2.5 per cent, but of pokies we have 20 per cent. I personally would take with a grain of salt much of what he said.

**Mr BACON** - Just on that point, there was also the claim that no one has been able to really back up or disprove that we have the slowest spin rates in the world in Australia.

**Mr CAPLICE** - It's not relevant, Scott. It is not relevant whether they are the fastest or the slowest. The spin rate is once every three seconds. That is the spin rate we are talking about. It doesn't matter what is going on in the rest of the world, that is what the spin rate is. That is what the sheets in front of you, the losses are based on. Charles may be able to expand on that.

In relation to Australia having 20 per cent of the world's pokies, you have been given evidence that shows the comparison of machines per head of population and Tassie sits right in the middle. We don't have the most. We don't have the least. We're in the middle. However, you have to put that in the context of Australia being absolutely flooded with these machines. We have the most in the world. Don't compare it to New South Wales, Queensland or South Australia, you have to look at it in the context that we have more machines than any country in the world.

Ms DAWKINS - Getting to the 90 per cent versus 85 per cent return, I think it was in *Ka-Ching!* where it was put forward that if it was set at 85 per cent then there would be something in the minds of people who use the machines that things had changed and they wouldn't any longer play, because they didn't feel that they would be getting a return. Do you know anything about that? What do you think?

**Mr CAPLICE** - This is more Charles' speciality, but I will proffer an opinion on that. No, it wouldn't make any difference because you don't know what is happening with the machines. All you are doing is pressing a button and relying on the machine to tell you what the result is going to be. You have no intuitive way of knowing what the odds are, whether the odds are 85, 90 or 95 per cent. The only thing that is going to gauge your end result is the amount of money in your pocket.

Ms DAWKINS - Not how quickly.

Mr CAPLICE - Not how quickly. The main difference between 85 and 90 per cent is that the player is still going to lose. If they are an addicted player they are still going to lose everything. At 90 per cent they are going to lose it a little slower, at 85 per cent they are going to lose it a little quicker - that is the only difference. But in a five-year period, which is the period I would describe as David did to the *Mercury* as the unusual rollover period, if Federal were to drop it to 85 cents which, as directors looking after their shareholders they are well entitled to do, that

would accelerate the speed of losses and in a cleaning-up market that may well be the decision they are entitled to make.

**Ms DAWKINS** - Do you know any high-risk gamblers? Are these people that you have interaction with?

**Mr CAPLICE** - On pokies, no, I tend not to hang around pokies joints, but in table gaming, yes.

Ms DAWKINS - We have heard evidence that people can move in and out of the different ranges of this, depending on life events and that kind of thing, which also suggests that people can be - I don't know if 'cured' is the right word - but have diversion. Is that something that you could comment on?

**Mr CAPLICE** - No, that is not my field. Again, I would toss that over to Charles.

**CHAIR** - Patrick, it has been presented to the committee that gaming is part of the fabric of our society in one of the submissions that came to us. People go back to the Melbourne Cup - the race that stops the nation sort of thing - but there is a difference between gambling per se on horses and dogs et cetera and poker machines. Would you like to comment on that? They are saying to us this is part of our community now.

Mr CAPLICE - I have no problem with that at all. I will refer to the Liberal Party. Their very first guiding principle, which I have written in front of me, basically says that gambling is legal. It is lawful and people enjoy it and that products should be available that are fair and give an acceptable average return to the player. And yes, to all the other forms of gambling you are mentioning, I say yes, I agree with that. I think it's a great principle and it's a principle that all the committee should endorse. Through the prism of that principle, that is how you should be looking at poker machines. If you do that, I don't believe you will find them fair and they certainly don't return an average acceptable amount to players. To one in three players, to the 30 per cent who have trouble, taking all their money isn't an acceptable average return, not in my terms.

**CHAIR** - Some of the social issues groups have presented, and you have heard Anglicare and such groups speak, that if the gaming machines were confined to the casinos - the two establishments that we have - at least there would be tighter regulation and supervision on those two entities, more so than in clubs and pubs. They believe that staff in clubs and pubs - if somebody self-excludes or whatever - has minimal impact or effect. How do you feel about that?

Mr CAPLICE - I heard some of that evidence and I read the transcripts. I was particularly interested in the praise that was given to the Country Club - and I can't remember the term of the employees that look after people who look like they may be having problems. I found that very difficult to take when I was reading in *The Examiner* of a nearly 70-year-old pensioner who was fronting courts, who had lost \$70 000 over the pokies, that he had stolen from three bowls clubs. I thought, how can they be saying that they have an efficient regime in the casino when they are allowing this old man to come in and lose \$70 000 and they know how much he is losing. I very much doubt he would have been playing without a card. They would know every penny he is losing and you are telling me that that is efficient. It's not.

I initially started out, when Rein in the Pokies started, entirely in support of the idea of getting the machines out of pubs and clubs and putting them into the casinos. But then, when I

had worked through it and collated the submission, I couldn't come to that conclusion. It wasn't intellectually honest. It doesn't work. Pokies fail the first guiding principle of the Liberals. They simply fail them. Unless you are going to treat the casinos as a drug injecting room that you'd find in Sydney, how can you say that these machines that fail a good guiding principle can be allowed anywhere? Machines are available that don't have these hooks.

You have to remember that EGMs, gaming machines, are not difficult things. Ross Ferrar would like you to believe that they are miracle things. They are programmed; they are simply programmed devices. You've all got apps on your phones, they are all programmed devices. To change an EGM, you could do it at the drop of a hat. Half an hour of a decent programmer would remove most of the addictive elements that are in them, and then you have no problem. That 30 per cent of players aren't then addicted and forced to stay at the machines. They are given back the right to say I have lost enough now, and get up and walk away. Take the addictive elements out and for me, you can have them on every street corner because I agree with the Liberals' first guiding principle.

All of you are aware of the current case against Crown Casino and the manufacturer Aristocrat in the federal court. That case, of course, is limited by the scope of the ACCC's fair trading provisions. What you guys have to ask yourself is, if parliament fails to properly regulate EGMs and is in full knowledge of their addictive elements and how those elements interact with the odds, will the state be at risk? That is, at risk of class suits from those who suffer consequential harm, from players, from businesses who have embezzled for players to continue playing, from families who have suffered harm. It's not just a moral question, it may become a question of liability.

I said that I have been a bit of a gambler and I'm certainly not a lawyer, but as a gambler I always assessed the odds and I bet when I judged them to be slightly in my favour. When I look at the losses attributed to addicted and at-risk players, about \$130 million of the annual Tasmanian \$220 million loss, and I look at the \$50 million returned to the state, and then I factor the chance of litigation, my betting antenna starts screaming at me, 'It's a really bad bet'. I ask that you take that chance of litigation seriously because it's real. Then ask yourself, would that litigation be directed at Federal Hotels or whoever the operator or operators may be, or would it be directed at the entity that gave them the okay for pokies to be used - us, the state of Tasmania? That will be the taxpayers when it comes to court.

Pokies can be programmed in a way that gives back to those one in three players who cannot say, 'I've lost enough for now', and give them back that basic gambler's right. On behalf of Rein in the Pokies I ask that the committee recommend that EGM use be allowed to continue, but with appropriate modifications to machine programming, the ones I have talked about today, that would reduce the currently excessive, socially catastrophic and the unacceptable risk of player addiction.

**Dr LIVINGSTONE** - I have been working in this research area for about 19 years. I have a PhD in Social Theory, which was focused on the history and social economics of poker machine gambling, focused in Victoria but with a broader perspective. I also have a Research Master of Economics degree and I have spent the last 19 years on various aspects of poker machine gambling. I have something like 35 publications in this field, or more. At the moment I'm working on a number of projects, including a focus on identifying effective public health-style interventions to reduce harm from poker machine gambling, in particular.

I feel like I've done a lot of work in this area and happily I think I'm in a position where I now have a much better understanding of how poker machines work, why they do what they do, and the effects that this has on both the economy and the society of any population that is subject to poker machine gambling on the sort of basis that Australian jurisdictions tend to be.

Pat's remarks earlier about Tasmania being in the middle are quite correct. In terms of average losses per adult they are probably on the low side. However, I might pass this document around for the members of the committee. My colleagues and I have, amongst other things, an interest in the distribution of harm, as we call it, or the way in which poker machines are distributed across communities.

If you look at figure 1, that is the relationship plotted using the data, which is publicly available on the Gaming Commission's website, of the LGAs in Tasmania where poker machines are located and the density, which is the number of machines per thousand adults. What you will see there, which is perhaps better demonstrated in the accompanying figure, is that there is a very strong relationship between disadvantage and the density of poker machines. This is about the strongest relationship I have ever seen in Australia. It is higher. The correlation co-efficient is higher than the situation was in Victoria during the height in the duopoly in that state. It is certainly much higher than it is in Victoria now, and indeed even higher than in New South Wales.

The second chart, on the back page of that first, is the relationship between the index of disadvantage and the revenue per player, per adult, in the affected areas. You will see again a very strong relationship. This, in fact, is an extraordinarily strong relationship. It is the highest correlation co-efficient for this type of relationship that I have ever seen and I have studied a lot of it over the last 19 years.

The third chart shows the relationship between poker machine density and the NGR per adult. Again an extremely strong relationship, which you would expect. We know now that where there are a lot of machines people will spend a lot of money. There is a very strong relationship that has been demonstrated in multiple jurisdictions around Australia between the density of machines and the amount of money that people spend in those areas. There are a number of ways of the conceiving of that and I will try to give an explanation for it. One way of thinking about it -

**Ms COURTNEY** - With these break-ups, are these by council?

**Mr LIVINGSTONE** - They are by the LGAs that are published on the website.

**Ms COURTNEY** - The LGAs that are missing from here are the LGAs that do not have any pokies?

**Mr LIVINGSTONE** - Correct. They are what we would call outriders. Normally, it is a statistical error to include massive outriders in any relationship of this nature.

**Ms COURTNEY** - I was wondering that when we are getting the line, making sure the ones that were not there were not -

**Mr LIVINGSTONE** - No, they are not skewing the line. This is also a disadvantage because the combined municipality data is not broken up on the publicly available data that, in my opinion, is an error that should be corrected.

Mr BACON - These are the small local government area that only has one venue?

**Mr LIVINGSTONE** - According to the information on the website it says if they have fewer than three venues they collapse them into one combined municipalities category for the sake of commercial confidentiality. I might say in commenting on that that in Victoria, since 2010, the data at a venue level has been publicly displayed on a monthly basis and no-one has been kidnapped, no-one's commercial confidence has been damaged.

Everybody knows how much venues make. The industry certainly knows how much their competitors are making compared to them. It is pretty clear and it has been done without any damage to anyone's interests, I think. One of the things that I think would be particularly helpful in a discussion of this sort would be for the data at a venue level to be publicly disclosed to do so regularly, at least in the same way that it is done in Victoria. That would not be harmful to anyone's interests and certainly when you have got a monopoly operator it is very difficult to understand how anyone's commercial interests are going to be damaged by that. That is by way of an opening observation.

The other thing I wanted to touch on is the characteristics of poker machines, gambling machines. Pat, again, is right; Australia has 20 per cent of the world's high intensity slot machines, as they are known. Natasha Dow Schull wrote the book *Addiction by Design*, which is a classic and extremely informative academic book about poker machines or slot machines in Las Vegas and around the world. Natasha made the observation that the Australian-style machines took over the slot market in America when they were introduced there in the late 90s. That is because they are incredibly addictive and incredibly good at what they do, which is to part people from their money and to do it efficiently and quickly.

There are two key design goals for poker machines, that is to maximise the time on device to maximise - the amount of time people spend on the machine - and to maximise what they call REVPAC, which is revenue per available customer. Those are the two key design criteria of a slot machine game, and the Australian poker machines have a number of innovations in them, which have facilitated the achievement of those goals in a very efficient way.

If you are familiar with old-style slot machines, they are the machines with the handle that you pull, which typically had three reels and on each reel, and there would be perhaps 20 symbols. The reels are all of the same size. You can only bet across the middle line and certainly in my youth they were ubiquitous in clubs in New South Wales, but not anywhere else. You could put two shillings in which dates me somewhat, but those were the machines that started the trend that we have seen recently. They were addictive. All gambling machines have some elements of addictivity to them, which I will talk about more in a minute, but they were low intensity, they were slow and the possibility of getting multiple reinforcement or rewards from them was very limited.

Fast forward to the 2000s, in the late 90s, when fully electronic machines became available. Fully electronic machines are computers. They are not particularly smart computers, they are computers and they rely on software. The software is essentially a spreadsheet, which maps onto a screen. It has a link to a pay table or pay tables, depending on the nature of the game, and it will do exactly the same thing that an old mechanical machine will do, only it has five virtual reels. They appear to be reels; it is just a display on a screen but it looks like a reel is spinning around to

give it some sort of hearkening back to the old-style machine and to perhaps persuade people that what they are playing is really a harmless old pull the lever-type slot machine.

They have three lines on which you can bet. In most cases those machines now have multiple lines on which you can bet up to - I think in Tasmania the legislated maximum is 50 lines, which is plenty. What that means is a 1 cent machine can rapidly become a \$5 or a maximum bet machine if you choose multiple lines and if you increase the scale of the credit multiplication factor, if you like. What they also do is increase the extent of reinforcement. The key to gambling machines is that they rely on two psychological principles that are well understood. The first of those, and probably the most important, is what we call operant conditioning. If any of you have done basic undergraduate psychology degree you will have been introduced to that. For those of you who haven't I will quickly summarise it as this.

In the 1950s, B.F. Skinner, a famous American psychologist, pioneered what he understood as capacity for humans to learn through reinforcement. If you put a rat in a box and you give it a food pellet every time it pushes a lever, it only pushes the lever when it wants a food pellet. If you put the same animal in a box and you allow it to keep pushing the lever and give it a reward intermittently it will push it often to the extent that it gets exhausted doing so. It will go through enormous hurdles to continue that behaviour, including running across an electric grid that burns its little feet.

Those sort of experiments happily are no longer available, because we actually have ethics in research these days. We have seen that the establishment of such behaviour through operant condition principles is extremely effective. It works with pigeons, it works with rats, it works with monkeys and it works with people.

Skinner, himself, pointed to poker machines, slot machines, as being a perfect example of the adaptation of this principle of operant conditioning to humans. Operant conditioning relies upon the effect that if you give an intermittent, unpredictable reward it will establish behaviour that is very difficult to extinguish. That is the first characteristic of all gambling and indeed, most gambling practices.

The second characteristic is what we call classical conditioning. Classical conditioning was first understood in the 19th century by experiments conducted by Pavlov, a Russian physiologist, who was interested in the way people learn to do certain things. What he did was to use a metronome when he fed his dog. He modified the dog with an apparatus that collected saliva from the dog so he could measure the extent to which the animal was influenced by one or other of the things that he did to it. He would feed the dog and he would ring a metronome. Eventually all he did was ring the metronome and the dog would salivate in anticipation of the reward.

If you put these two things together you have a gambling machine. If you look at any gambling machine you will see that it has an intermittent schedule of reward, random reinforcement schedule so you cannot predict when it is next going to give you a reward, and it has a bell and whistle that goes off when you do get a reward. That is the key to them. That is what makes them entertaining and it is also what can make them addictive.

In a modern electronic gaming machine you take those two characteristics and ramp them up. We now know that every time you get a reward on a gambling machine you get a neurological and physiological response, which you can measure. You can measure it physiologically by skin

conductivity, heart rate, etcetera and you can measure it neurologically if you have access to a functional MRI and you can see those bits of the brain that light up. That is well established.

The second characteristic is that if you can increase the rate of reinforcement then you are obviously going to make a machine that is much better at getting people to spend their money because that tends to accelerate the rate to which you become conditioned to the behaviour. If you take an electronic machine not only do you get a reinforcement when you get a win, you also get a reinforcement when you get what we call a loss disguised as a win. On a multiline machine that means that you can bet a dollar on multiple lines and you will get a small win on one of those lines. You might win 10 cents. The machine goes off and gives you a reward. That literally doubles the rate of reinforcement that the machine can provide.

The third characteristic that is available to gambling machines now is that the number of symbols on each reel can be different in total and the number of winning symbols on each real can be different. For example, one machine that is being used in the legal action against Aristocrat and Crown at the moment, which is called Dolphin Treasure, which is in venues in Tasmania as it is everywhere else in Australia, has four reels with 30 symbols on it and a fifth reel has 44 symbols on it. There are a different number of winning symbols on each reel. What that means is that you will constantly get - the machine plays left to right, so you have to have a winning symbol on line 1. An example is that with kings, which pays a certain number of credits of a mid-sized reward, there is only one winning symbol on line one but there are multiple winning symbols on the other lines so it looks like you are getting close to a win. This encourages fallacious beliefs on the part of the user who thinks that they are getting close to a win and gives them a reward.

We now know that from physiological and MRI measurements that people are stimulated by an actual win, by a loss disguised as a win and by a near miss. The machines are now engineered to produce both of those latter two at quite a high rate. What you are doing is tripling the rate of reinforcement without actually having to pay anyone anything.

It is a very cynical way of dealing with a not natural human response to a type of conditioning system. It is all within the rules, it is all within the technical standards. I might say that the technical standards need to be looked at and modified so that they actually address harm prevention and harm minimisation characteristics rather than simply embed in concrete what was being done in New South Wales in 1995, which is effectively what the standards reflect.

At the moment the standards mean that the machine won't electrocute you, hopefully, but they don't protect you from a consumer-protection perspective. That is why the ACCC action has been taken by Slater and Gordon with a very high-powered team of QCs and others taking it on. They are very confident of achieving success in the Federal Court. It will, of course, go up and down to the High Court and back several times, I expect, but nonetheless I think that they have good grounds for the claim that is being made against the two respondents in this action.

How do we explain the concentration of machines in areas of disadvantage? Firstly, you have a monopoly situation in this state where one company knows how much money every machine will make. It has a monitoring system, there is almost perfect data available for each machine. Machines come and go but the ones that stick are the ones that are successful and different machines are successful in different markets.

A drip-feeder type machine - the Dolphin Treasure is in effect a drip-feeder - will be attractive to people who are not particularly risk-takers. A more volatile machine, one in which the rewards are much more intermittent but can be higher, will be attractive to gung-ho young blokes who want to prove to their mates how tough they are. But there is a machine for every demographic and the industry spends a lot of time developing new games for new demographics and it has the world's biggest test lab out there in Las Vegas, in Sydney, in Hobart and around the countryside in most Australian states.

You put a machine out there, if it works it stays there, it gets fine-tuned to go to the place where it is going to make the most money and that is what it does. It sits there until it is superseded or it runs out of puff.

You have this monopoly situation in Tasmania where one company knows everything about how machines perform and they can cherrypick the location where they put them. As I understand it from the last socio-economic impact report, the Treasury pointed out that Federal or its subsidiaries make the decision about where machines will go. We can see that reflected in the data that I presented.

Does this mean that people in lower income areas are stupid, lacking will or ignorant? No, it doesn't. What they are though is usually more under stress. To explain that I need to talk to you a little bit more about the relationship between what we see happening in people's brains and the form of addiction. What happens in people's brains is exactly the same as happens in people's brains who are addicted to cocaine. There is a neurochemical called dopamine. There are other neurochemicals but dopamine is the principal one and that is released in anticipation of a reward at the point of which a reward is achieved and in a number of other situations.

Someone who is living a stressful life, who is living a life under pressure can often seek relief. Sometimes they do it with alcohol, sometimes they smoke, sometimes they take narcotic drugs or other illicit drugs and sometimes they find a relief with poker machines. I think the classic case of this would be the former Speaker of the House in Victoria - who is on *Ka-Ching!* - whose daughter committed suicide and unfortunately she found the body. She wasn't the Speaker, she was the government whip, and obviously someone of great confidence and expertise, not unlike you, ladies and gentlemen. After that event she found that the only thing that provided her with comfort and relief was a poker machine addiction. That of course went on to ruin her parliamentary career. She lost all of her possessions, including her house.

#### **CHAIR** - She presented to us last week.

Mr LIVINGSTONE - Yes. I think her story is one which is very instructive. What was happening there from a neurological point of view is that she was being provided with a stimulation that released dopamine, which is a chemical that stimulates the brain's reward system and makes you feel good. Just as taking cocaine makes people feel good. There are two processes with cocaine of course. The neurological processes of dopamine release and also the effect of the drug itself in numbing pain and distress through its own pharmacological mechanisms. But with poker machines what we have is a perfect addiction, as Natasha Stewart pointed out. Poker machines are a perfect addiction machine and they make money in areas of socio economic stress because people are much more likely to be craving relief in those situations. That is what it is all about. Now we are able to see what the mechanism for reinforcement is. We give these things a label, so the psychologists gave classical conditioning a label in the nineteenth century. Then they gave operant conditioning a label in the 1950s. Now with the ability to see

what is happening inside people's brains, which we get from FMRIs, we can establish the mechanism by which those two processes are effective in establishing addiction. That is exactly what poker machines do. They are extremely good at it.

**Ms COURTNEY** - I understand this morning you made some comments on the radio - I did not listen to it I have just seen what is reported - with regard to the monopoly situation and the benefits or otherwise of this being broken up. Could you please explain that to the committee for those who did not listen?

**Mr LIVINGSTONE** - Sure. One of the reasons for the establishment of this pattern in Tasmania, which as I say is the most extreme I have ever seen, is clearly because there is a single body which has information, perfect information, about where to put machines to make the most money. It is a cynical exercise in monopoly to put machines in areas where you know you are going to do the most damage. That would appear to be the case.

Federal has better data than I do about where their machines make money and yet they continue to put them in places where they are causing the most impact and most damage, including Glenorchy and other places where the socio-economic situation is pretty poor. In Victoria up until 2012 there was a duopoly that operated between Tabcorp and Tattersalls. Both of them were licensed to operate half of the machines in pubs and clubs. Between them they managed to locate the machines in a pattern similar to this. That is because again they had perfect information for each half of the market. They had enough machines out there, 27 500 between them, to know where to locate them to make the most money. The Victorian government after 2010 announced that from 2012 onwards the duopoly would be broken up and individual venues would be able to operate and own machines. That was a positive step in the sense that it reduced player losses and that almost certainly was attributable to the fact that the concentration of machines in some areas was reduced. The problem with that model is that there was a possibility for one group to retain a substantial share of the market. That was ALH Limited, which is a joint venture partnership with Woolworths, who own 75 per cent, and the Mathieson family, who have a long history of operating venues in Victoria. They had a lot of information about where to put machines to make money and they continued to locate their machines disproportionately in areas of disadvantage and push up the average loss rate. But breaking up the duopoly was clearly a positive harm prevention measure. It is not the only thing you can do but it was a positive measure which helped to reduce the amount of harm in Victoria in my opinion. I do not think there is any doubt about that.

Ms COURTNEY - In terms of the model that Victoria used, and the guiding principles looking at the possibility of some kind of tender for market, do you have a view on different tenders and how they work? We have had a range of feedback from different stakeholders on what models work well and which ones are appropriate. Do you have any comments based on your experience in Victoria about what you believe? Should that be a pathway the government of the day goes down? What is the most appropriate and which one would work the best?

**Dr LIVINGSTONE** - I have no firm opinion about what the shape of the market should look like in the sense of how you structure the operators. I think breaking up the monopoly would be a positive step. The Victorian experience of going to market was a disaster. The Auditor-General produced a report that you may have seen subsequent to that, which pointed out that the state lost something like \$2.5 billion of potential revenue from that sale. Breaking it up into individual markets was a catastrophe. It allowed big players, such as ALH, to pick up licences for a song,

\$5500 per 10-year licence, which is nothing compared to what they should be worth. It allowed the concentration of machines in vulnerable areas to continue.

If you were going to do a tender to the market to sell licences then don't do what they did in Victoria. I think that was also contaminated by the fact that out of fear of being seen to favour one party or another the Department of Justice in Victoria hired an international consultant to design the market. This was an American firm, which had never done this before and it was, quite predictably, a disaster. Whatever you are going to do if you decide to go to market don't do it the way it was done in Victoria. By the same token I think cementing existing licence entitlements without any modification, having regard to socio-economic circumstances and so on, would also be disastrous, because it would simply mean that the same pattern continued indefinitely into the future.

The third characteristic of any individual licence would be that it should not be granted in perpetuity. New South Wales, as you know, has an awful lot of poker machines, nearly 100 000 and most of them are in clubs. Those clubs are effectively mini casinos, although most of them are bigger than the Country Club Casino in Launceston. Some of them are bigger than Wrest Point, I think. The problem with perpetuity is that you establish an incredibly powerful lobby that can undermine proper governance and establish its own political connections to great effect. As an observer of Tasmanian politics it seems to me that that may well have happened here under the monopoly. It certainly has happened in New South Wales where Clubs New South Wales has the wherewithal to effectively dictate to the government the conditions under which it will present its licences and so on. It is not a great idea to give somebody something forever, particularly when it is a licence to print money.

**Ms COURTNEY** - The landscape of clubs in Tasmania is quite different to New South Wales. We have heard evidence from the national peak, rather than Tasmanian. The Victorian model, I understand, was trying to give clubs an advantage by doing a pre-offer that didn't end up working, because they ended up paying a vast sum more than the commercial offer afterwards. Do you have a view about clubs in Tasmania. There is only a handful of clubs but we have heard evidence that there should be a carve-out for them if a tender happens in the future, noting your concerns about creating a -

Dr LIVINGSTONE - Monster.

Ms COURTNEY - Your words, not mine.

**Dr LIVINGSTONE** - Well, the Victorian situation, as you know, involves 50 per cent of the machines being located in clubs and 50 per cent being located in hotels. Both have the same maximum entitlement of 105 machines per venue. There are regional caps in place, which limit the total number of machines generally around a municipality area. There are some capped areas that are a bit larger or a bit smaller. That has had some effects. The initial evaluation of the regional capping system suggested that it had little effect and that is because the cuts weren't deep enough. Over time, as the Victorian population has surged quite dramatically, it appears to have had some effect.

The only way a cap works is if it induces queuing. If you have to sit around waiting for an hour to get on a machine then you are not going to spend the money that you would have spent in that time, so it will reduce revenue, but you have to make a very deep cut to induce queuing in

most pokie venues. It is very rare that you walk into a pokie venue and discover that there are no machines available, certainly in Victoria.

**Mr BACON** - In that case then is there not going to be a nearby pub that you can switch to. There might be a queue at one venue, but if you go next door there are machines available.

**Dr LIVINGSTONE** - It may well be, but the problem is that the popularity of a particular machine is also a factor, particularly for the people who are addicted to the machines. They don't want to play anything other than the machine they want to play. If you still allow lots of venues nearby to each other to have multiple machines then a regional cap is not going to have a big effect.

Venue level caps are not a bad idea. It appears that venue-level caps are probably more likely to reduce the amount of harm. We know that big venues induce more harm: the bigger the venue, the more money you spend in that venue and the more problem gamblers there are at the venue. There are a lot of tools at your disposal if you wanted to design a post-monopoly market for these sorts of amusement machines, if you want to call them that.

The reality, though, as Pat said, is that if you just simply break up the market and allow the same types of machines, you are probably not going to solve too many problems. The secret is to identify characteristics that will prevent harm in the first place, which in my opinion is far more important than picking up people who have already fallen off the cliff, which is what most so-called responsible gambling measures are focused on at the moment, and/or minimising the harm they experience once they become addicted to the machines.

**Ms COURTNEY** - If we are looking at harm prevention rather than harm minimisation, what things would fall into that harm prevention category as opposed to harm minimisation?

**Dr LIVINGSTONE** - The key to that is what we call structural characteristics. Again, I have done a lot of work on structural characteristics of poker machines. These are the features that I was talking about earlier which are essentially linked to addiction: the multiline capacity, the high level of maximum bets, the speed of play, the opportunity for linked jackpots et cetera those types of characteristics which all exacerbate the addictive characteristics of the machine and all of which can be addressed by regulation and which can be modified, as Pat pointed out, simply by a piece of software.

Maximum bets is an obvious one and it appears to be efficacious. Reducing the reward that you get from a loss disguised as a win would also be efficacious. Reducing the capacity of the machine to have a differential number of symbols on each reel and a different number of winning symbols on each reel would also be efficacious because it would reduce the opportunity for the designers to program in effectively near misses or near losses, whatever you want to call them.

Those three or four characteristics would be crucial. They would probably reduce the attractiveness of the machine but it is likely that the average casual user - what Pat called a recreational user - would not even notice it. In fact, in the one Australian experiment which incorporated some of those features, the casual users didn't notice them and they had an effect on the rate of expenditure of people who they classified as problem gamblers.

I make another note on harm. There was a study undertaken last year in Victoria, funded by the Victorian Responsible Gambling Foundation, which looked at the extent of harm accruing

from gambling across the population. When we think of harm from gambling, we generally think of people who are problem gamblers. That is, people who are hopelessly addicted to the machine. They certainly experience massive harm. It is not just them, though, it is their family, their friends, their businesses and the entire community. Sometimes a community has to pay for them to be incarcerated for lengthy periods because they have pinched enormous sums of money from their employer. Their children and their relationship are gone, they have lost their house, and the impact of that is extraordinary. It is not something that goes away. It is something from which you can never recover. I know this because I have spoken to literally hundreds, if not thousands, of people who have been in that situation. The pain they have experienced through that addiction is something they still struggle to understand - 'Why did I do this to myself?' It is extraordinary. They experience a lot of harm.

People in the so-called moderate risk group are also experiencing considerable harm - not quite at the levels of someone who is spending everything on the machine but they are effectively addicted. They are struggling with them and they are experiencing considerable harm. More importantly, their family, friends and society in general are also experiencing harm. Even people who might present as being recreational gamblers will, from time to time, spend more than they expected to, not have access to resources that they need to pay bills, et cetera, and thus inflict harm not only on themselves but on the broader community.

The study in Victoria counted all this and did a study that estimated what the life impact would be - what we call a life discount, or enjoyment of life discounting model, which is a standard epidemiological model. They demonstrated that the level of magnitude of harm associated with gambling - primarily with poker machine gambling because that causes 75-85 per cent of the harm associated with gambling - was in the same order of magnitude of that associated with the abuse of alcohol. We are not talking about some sort of marginal group in the community, we are talking about a product which has the capacity to generate extraordinary harm across all levels of society without exception.

**CHAIR** - There is a difference between Western Australian machines and the rest of Australia; have you done any work in that area?

**Dr LIVINGSTONE** - I haven't looked closely at the Western Australian machines. My understanding is that they are essentially not unlike the sort of the machines that you can play in an arcade in the UK on an FOBT - fixed odds betting terminal. They provide a range of different types of games. If you look at the FOBT situation in Britain, it is causing extreme distress because they allow very high maximum bets and they allow multiplicity of bets. If you look at a roulette table, for example, you can bet on any individual number, you can bet on groups of numbers, you can bet on a zero or a double zero if it has double zeros, you can bet on red, you can bet on black, you can bet on high, you can bet on middle, you can bet on low, and you can bet on any number of combinations. What you can actually do in Britain is bet on all of those combinations up to a maximum of 100 pounds. It is not dissimilar, as I understand it, in WA. What you end up with is a situation where the machine rate is a bit slower but you can still bet a very significant amount of money on a multiplicity of bets, multiple times per minute. The harm associated with those things is extreme and there is no doubt they are causing serious problems in the UK.

Why don't they do it in WA? Because they are in one single venue. The real problem with poker machines, apart from their highly addictive quality, is that in Australia they are ubiquitous and they provide a virtually continuous form of gambling. The debate between whether you push

the button every three seconds or every five seconds is absurd. The reality is that it is effectively a continuous form of gambling. There is no other form of gambling where you can sit there like that and risk, in Tasmania, \$5 every time you do it. In New South Wales, \$10 every time. There is no comparison with any other form of gambling in that sense. We have ubiquity, we have continuity and we have relatively high stakes or intensity. That is the reason why they are so dangerous.

If you do that with FOBT-style machines across the board, you slow it down a little bit but you are not effectively changing anything else. If they are as ubiquitous as they currently are, nothing much changes.

**CHAIR** - I understand Patrick's comments regarding casinos, pubs and clubs having poker machines, but if a resident of Glenorchy were forced to travel to a casino to undertake that activity where at the moment they walk out their door, go 100 metres along the road and they can just pop in for however long, it seems that in this state, if we go back to the history, the government introduced the casinos to try to have an economic return. It has been suggested to us by a number of the social groups that have had issues with it that they could live with them being in the casinos because it is a better scenario than being in the pubs and clubs. Would you like to comment on how you see that? Should we have them at all because of all the dangers, but there is a certain group within our community that says they should be here because 70 per cent of players gamble responsibly.

**Dr LIVINGSTONE** - Yes. I am certainly not anti-gambling. I think if you could come up with a poker machine that didn't cause a fairly hefty proportion of the people who use it to end up in diabolical trouble, then I wouldn't have any difficulty. The problem I am concerned about is the harm that these things generate. How do we reduce the harm? That is where I come from. How do we reduce the harm and maintain the enjoyment if there is enjoyment? That is the key.

If you look at what happens in casinos, generally people make a choice to go to a casino. If you are a deadly addicted gambler, you will find a poker machine somewhere. You won't gamble on anything else. This idea about how people with gambling addictions on poker machines would somehow flee to the internet is simply nonsense. There is no evidence in any jurisdiction in the world that that has occurred. The best case is Norway, where they banned machines entirely for two years and then reintroduced them in modified form. In that jurisdiction there was no increase in the number of people gambling on the internet, as far as they could measure from their multiple surveys, and there was a massive reduction in the number of people seeking assistance from gambling assistance centres.

In Tasmania, as I understand it, the last socio-economic impact study attached a prevailence study, which demonstrated something like 7 per cent of Tasmanians gamble on the internet. That is not a massive number of people and, although the internet has enormous potential, it is not a substitute for poker machine gambling so that is not going to happen.

If you take them out of pubs and clubs and you leave them in casinos, what that means is people will make, in most cases, a conscious decision to go there. If you are driving home and you want to stop at the pub on the way for a relaxing ale or whatever and you go to a venue where there are many poker machines, if you have a problem with them you will hear them, you will see them and they will exercise what amounts to a siren song on you. They will attract you to them.

It is the casual ubiquity of them that is part of the problem. If you take them out clubs and pubs you will certainly reduce the propensity of people who are struggling with the machines to counter that. You won't, probably, address people who are already seriously addicted to the machine because if they want to they will drive to Launceston or they will go down to Wrest Point or wherever. You will certainly reduce the uptake of gambling problems, there is no doubt about that, I would think.

**CHAIR** - With your professionalism and expertise with addiction, regarding your 'always gambler' and your 'mostly gambler' - using the terms that Patrick had used - regardless of the rate of return to player, won't they continue to play until they have lost all their money? Do you see what I mean?

#### Dr LIVINGSTONE - Yes.

**CHAIR** - Some people would suggest that the rate of return could be good but, to the addicted gambler, they are always going to play out until they lose their money.

**Dr LIVINGSTONE** - The rate of return is terrible and in America it is rare for slot machines to be programmed to produce as much return to the house, as much house edge, as they in Australia, regularly. It is a very rare event.

If you have seen *Ka-Ching!* you will know that one of the game designers commented that the games in Australia are a terrible bet, and they are, compared to the others. What we do know is that when we did a study we had access to real data from the Victorian operators over a period of time. We discovered one of the operators thought that it would get a market edge if it offered a better return to player and it did that over a period of time. There was effect. In fact the other company just made more money and so they gradually migrated their machines. They did an experiment in one part of Melbourne where they bumped up the house edge to the maximum that they could and they discovered that not only did they make more money, but also that no-one noticed. What we know is that within a reasonable range people using poker machines don't know what the return to player really is and they do not understand it at all.

I think it is very important to remember that, when you look at a return to player ratio, if the government says, 'The minimum is 85 per cent, so that means you will get back \$85 if you take it to \$100'. That is what most people think that means and that is complete nonsense. Each time you push the button you lose 15 per cent. At that rate, on average, if you start with a stake of \$40 and you bet about \$1 a spin - which is not difficult on Dolphin Treasure - the median time, the middle part of the distribution of results, is 4.5 minutes, so you will spend that \$40 in 4.5 minutes. So at least half of the people using that machine in that manner will spend their money at less than 4.5 minutes and the others, well, there will be a long tail.

That is one factor. The other factor is that the house edge is also nuanced to buy, if it is a link to jackpot that takes out a contribution, so the return to player immediately drops for that. If you get a machine which is linked to other machines, either on a network or locally, then that will make, say, a 5 per cent contribution to the jackpot. So that gets pooled but you, playing that individual machine, are extremely unlikely to win that so that immediately reduces your RTP down to 80 per cent or something like that. If the machine has multiple levels of play, and some machines do, then each time you change that, that will be counted into, for example, the free features. People think when they are playing the free features that they are getting something for nothing. That, of course, is also factored into the RTP.

So people cannot tell the difference and people rarely understand what the true odds are of actually winning anything on it and, if they are seriously addicted, most of them tell me they are not playing for the money any more - they are beyond that - all they want to do is get into the zone, as they call it, which is the space that you occupy when you are seriously addicted to a poker machine and you just want peace and quiet.

**CHAIR** - I did notice 18 months ago or so you were talking at an international level about a greater integrity into the research. For the committee's benefit and those listening, could you comment on that issue, because I think it is an important one?

**Dr LIVINGSTONE** - Thank you for that opportunity. The issue we are most concerned about - this is myself and a group of others - is that the gambling research field, unlike many other fields now - still regularly receives funding from funders who are tied to industry. In tobacco it is inconceivable that a legitimate researcher would these days take money from the tobacco industry. Although, for many years, the tobacco industry had a stable of researchers who regularly refuted and argued that there was doubt about the evidence, et cetera. That was a very successful strategy and it lasted for a long time. It has now been overwhelmed because the research community got its act together and prohibited researchers from taking funds from tobacco and companies or funders linked to tobacco. It hasn't ceased entirely, but it is rare. Alcohol is in a similar position.

Until recently, it was seen to be reasonable by many in the research community to take money from the alcohol industry for research purposes, or from what we call SAPROs, which are front organisations for businesses. Drinkwise, for example, is one such. It is entirely funded by the alcohol industry. They decide the priorities and they give researchers money. Some researchers will still take money from that, but no researcher who wants to be taken seriously in the research literature can accept that money. Most journals now prohibit the publication of articles that are funded from those sources.

The pharmaceutical research area is exactly the same. What we know from detailed research in that field is that if you take money from industry it will skew the results of your research for whatever reason, whether you do it intentionally, whether you do it unintentionally or whatever it will skew the results of the research in favour of the drug company.

In the gambling research sector, unfortunately, that lesson has not yet been learnt. My campaign, amongst my research colleagues, if you like, and many others who have joined with me now I am happy to say, is that it is important for us to ensure that the standards of disclosure in all of the academic journals are increased. That, happily, is occurring. It is seen as inappropriate for gambling researchers to accept funding from gambling organisations or money that is tied to the proceeds of gambling. That will increase the integrity of the evidence base.

The reason for all of this is not because I hate the industry. It is because we do not have a good evidence base in the industry. That is improving, because researchers are increasingly free to pursue their own research interests, which tend to be those that are at conflict with the interests of the industry. Up until quite recently, particularly in Australia, the industry funded a lot of researchers. It continues to fund some. Their research does not help build a comprehensive evidence base, particularly around harm prevention, harm reduction and harm minimisation.

Until we have rigorous, independently funded and independent decisions about what the research priorities should be, as opposed to being told by industry what to pursue, then the evidence base will not improve. Me and my colleagues, and media colleagues, have been doing quite a lot of work in improving disclosure and improving the evidence base. That is one of the reasons why we are doing this project for the VRGF at the moment, to bring in ideas from other public health fields to see what we can do to improve harm minimisation and harm prevention measures in gambling.

**CHAIR** - When you say 'your colleagues', are they international or is it mainly your national colleagues, or is there a flair for this research through the states? Is it an international field?

**Dr LIVINGSTONE** - It is an international field. I have colleagues in New Zealand, the United States, Canada, Britain, Switzerland and Finland that I am actively collaborating with at the moment, as well as a bunch in Australia. I have a small group at Monash, about half a dozen of us who work on these projects regularly together.

**Mr ARMSTRONG** - We have heard through our hearings that the electronic gaming machine playing is in a decline. Would you have any comment to make on that?

Mr LIVINGSTONE - Yes. The number of people who use them has declined over recent times in almost all Australian jurisdictions and it has, as far as I can gather, in Tasmania as well. I think it is certainly below 20 per cent of the population, the adult population who use machines now. In its heyday it was probably up around a third. That is true also in Victoria and to a certain extent in New South Wales, although the rate of participation in New South Wales is still quite high because effectively in parts of Sydney you can't go out for dinner unless you are surrounded by many poker machines. However, although the real revenue from poker machine gambling has tended to be stable or to decline slightly, what that means is amongst those people who continue to use machines, the average loss rate is higher in real terms than it used to be. What that suggests is that the industry is becoming more dependent on a hard core of gamblers and very dependent in fact it is increasing dependency - on people who have an addiction. The industry is not getting better, if anything it is getting worse in terms of its dependency upon addicted users.

Mr ARMSTRONG - You touched on internet gambling. We had figures here somewhere in one of the submissions where internet gambling is growing at the biggest rate. You were saying that you do not believe that if the electronic gaming machines were outlawed that it would not grow but if you are a problem gambler and you said they would find somewhere else to bet would the internet be that -?

**Mr LIVINGSTONE** - They would find somewhere else to bet on a gambling machines, yes. Would they go on the internet? The evidence is that they don't and that was the case in Norway where they took out all the machines for a two-year period.

Mr ARMSTRONG - You made a statement that they would find somewhere else to bet.

**Mr LIVINGSTONE** - In the Tasmanian situation I was asked the question by the chair about what would happen if you took all the machines out of pubs and clubs? In Tasmania, because it is a fairly small state it is easy to get to one of the two remaining casinos. Might I add, the dependency of both of those casinos on EGMs for their revenue is also unprecedented in my experience. The chart in the last social and economic impact study suggested that it was in excess of 90 per cent. That is very rare. Most casinos rely heavily on gaming machines but not to that

level. Crown in Melbourne I think gets about 60 per cent of its revenue from pokies and the rest comes from table games and others. That is a really high dependency rate.

Mr BACON - Is that because of the way the casinos are regulated?

Mr LIVINGSTONE - That is a good question. I do not know the answer to that. My strong sense is that when it originated Wrest Point was probably a popular tourist destination for people from other parts of Australia and perhaps around the world. There is no way that you could say that the two modest casinos in Tasmania provide any great attraction to anyone when there are very big casinos on the mainland of Australia. If you are a Chinese visitor, for example, you have to fly over these days multiple casinos, including the world's two biggest casinos in Singapore to get here. So this talk that casinos are some sort of tourist magnet is really nonsense. Even in the case of Barangaroo in Sydney the likelihood that that will have poker machines is the best bet you could ever make I reckon.

**Mr BACON** - The Government has also provided the opportunity for a high rollers casino at MONA, which David Walsh approached the Government about, but also one in the north of the state. Do you think that would be viable in a real world to have a high roller casino in the north of Tasmania?

Mr LIVINGSTONE - If anyone could make it work, it would be Mr Walsh.

Mr BACON - I mean separate to that one they have provided the opportunity for another one.

Mr LIVINGSTONE - The issue with high roller only casinos is that, as I said before, casinos are not novelties and making money out of high rollers alone would require a lot of careful marketing and a very significantly differentiated offering compared to what any other casino in the world can offer you these days. If you combine it with a particular tourism experience then it could be profitable but it would not be making gazillions. It is not going to make hundreds of millions a year. The only place in the world where those sort of casinos operate efficiently is say in a place like Monaco where there is a long tradition. It is very glamorous, the locals are not allowed in unless they happen to be ex-pats or something like that and the table has a high minimum bet et cetera, et cetera. That model could work but casinos as such are not particularly novel and they do not generate massive tourism these days.

**CHAIR** - Thank you very much and we appreciate your time.

**Mr LIVINGSTONE** - Thank you for the opportunity.

THE WITNESSES WITHDREW.

Mr RODNEY JAMES WHITEHEAD, AUDITOR-GENERAL, Mr SIMON ANDREWS, ACTING ASSISTANT AUDITOR-GENERAL, Mr DANNIEL JAMES MOORE, PRINCIPAL PERFORMANCE ANALYST, OFFICE OF THE AUDITOR-GENERAL, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

**CHAIR** - Thank you for coming in to speak to us. All evidence taken in this place is afforded parliamentary privilege, but once you are outside the building that changes. It is being recorded on *Hansard* and it will be published on our committee website as soon as it becomes available. If there is evidence you would like to give in camera, that can be arranged.

**Mr WHITEHEAD** - I will make a few introductory remarks in regard to the audit we are currently conducting on gambling revenue and harm minimisation. This audit was on our 2016-17 annual plan of work, which is publicly available on the Tasmanian Audit Office website. It has been on our annual plan of work since 2014-15. In our 2016-17 annual plan of work we indicated that we would commence planning for this audit in October 2016. We actually started in September 2016 when we started our planning phase for this particular audit. We really started getting into the detail of that planning phase in November 2016.

The audit was selected because of public concern about the reach of gambling and the negative impacts it has on the lives of many Tasmanians. At this particular stage of our audit we are about 30 per cent of the way through the implementation stage, or the execution phase, of our audit. At this stage we can't reveal any findings or conclusions, because we still have quite a bit of research to go through before we are in a position where we can make findings or conclusions in respect of the scope of our audit.

The objective of our audit was to express an opinion on managing the collection of gambling revenue, the management of the community support levy and the effectiveness and enforcement of regulatory harm minimisation measures.

The scope or time period of the audit covers the period from 2011 through to 2016 and it covers the collection and distribution of gambling revenue out of the Gaming Control Act 1993, including the community support levy. The harm minimisation program is funded by the community support levy and other measures under the mandatory code and grant programs for sport and recreation clubs.

The audit involves a number of parties that we are liaising with. It covers the Tasmanian Liquor and Gaming Commission within the Department of Treasury and Finance, Gamblers Help Services within the Department of Health and Human Services, various non-Government organisations that provide services funded by the community support levy and the Community Sport and Recreation Division within the Department of Premier and Cabinet.

We have three primary audit criteria that we are considering as part of the scope of our audit. The first is whether the due revenue is received and the correct amount of community support levy is distributed. So that effectively looks at whether or not the correct taxes and charges are collected by the state government. Is the correct amount of community support levy gathered and is the community support levy money distributed in compliance with the act?

The second criterion is whether the community support levy is managed effectively. Here we are looking at the community support levy activities to ensure that they are adequately monitored

and reported, whether there are targets and performance measures set for community support levy activities and whether the grants programs are managed effectively.

The third criterion is looking at whether harm minimisation measures are effective. Here we are looking at whether or not the harm minimisation actions are well-planned based on appropriate robust research and analysis, whether the research funded by the community support levy drives measures to help minimise the harm for problem gamblers, whether harm minimisation measures are implemented in accordance with the legislation, the mandatory code and better practice, and comparisons with other jurisdictions, whether the harm minimisation measures are reducing the number of problem gamblers, whether programs for the rehabilitation of problem gamblers are preventing relapses and do other health services funded by the community support levy contribute to harm minimisation for problem gamblers.

As I mentioned before we are about one-third of the way through the execution phase of our audit. We are planning to table our report in Parliament in early June 2017. We believe our report will make a contribution to the terms of reference that the committee is examining, particularly term of reference 1(f), which is a review of harm minimisation measures and their effectiveness, including the community support levy.

**CHAIR** - Unless you play in that space you don't really always know what the Auditor-General does, so I am wondering if you could talk about other audits that you are planning for 2017 so the listeners or the readers of *Hansard* will understand what breadth of work you undertake.

**Mr WHITEHEAD** - Under the Audit Act 2008 we do have the power to undertake examinations, inspections and audits, looking at the economy efficiency and effectiveness of government expenditure. That includes government monies and looking at government property and how that is being used.

We devise a number of audits that we conduct for each financial year and those audits are usually documented within our annual plan of work which we present to the Public Accounts Committee by 31 March each year. They review our proposed plan of work and provide comment, we then finalise the annual plan of work by 30 June each year and publish that on our website. That gives the community some expectation around the projects that we have and will be looking at over the course of the coming financial year.

We usually conduct between six and seven performance audits each financial year. In addition to that we undertake a number of probity audits and we also do an employer audit for which we get funding from the Department of Premier and Cabinet, auditing the State Government employees functions.

In terms of the performance audits we conduct and how we select those, we go through a number of measures to try to come up with projects that we think have some benefit to the community, and specifically the Parliament, in terms of providing some accountability around the Tasmanian government's performance in regard to how it expends public money and how it uses public property.

Those audits that we select are usually identified from a number of means and that can be from discussions with parliamentarians, from discussions with various people within the state government, usually at the more senior level of state government. We also have the opportunity

to seek referrals from the public in terms of matters that they believe are of interest as well, so we do take that into consideration.

In addition to that we do environmental scanning in terms of looking at what other community concerns might exist. We look at various media reports from all sources of media, whether it is social media, the printed media or television broadcasts. In addition to that we look at what some of the other audit jurisdictions are doing interstate as well. Some of the projects they have selected on their plans of work may have relevance or applicability within our jurisdiction as well.

Once we have identified potential projects that we can undertake we go through an assessment process to essentially grade those particular projects across a number of criteria, such as the financial materiality of the particular project. That is looking at the amount of expenditure or property that is involved under the proposed scope of the audit. We look at the nature of the particular audit and the level of public significance of the particular audit matter. We look at whether or not there have been other recent external or internal reviews or publicly available reports in relation to the subject matter. If there has been then it may be an area that we don't necessarily duplicate. We also look at things like the audit-ability of the subject matter as well. That comes down to whether there is adequate data for us to actually base our audit work on so that we can form all the criteria that we want to examine. Also whether or not there is data available for us to form findings and conclusions.

**CHAIR** - How long have you been in existence?

Mr WHITEHEAD - The audit office itself has been in existence for about 125 years.

**CHAIR** - This is the first time that the audit office has undertaken a study such as this on the audit of the gaming market?

**Mr WHITEHEAD** - I'd probably have to take that question on notice. I've been in the role for almost 12 months. I am not aware of any other audits being done in this particular area. Certainly we would take that into consideration in deciding to do this audit, whether we had done a similar audit in the not too distant past. Given that we have selected this audit my understanding would be that we probably haven't done one in recent years.

**CHAIR** - You did say that you get requests from individuals, groups or government and officials, so where did this one come from in 2014-15? Did it originate from correspondence from a minister or the Government or did it come out from your office? What was the origin of this audit?

**Mr WHITEHEAD** - Given that this particular audit was actually on our annual plan of work for 2014-15, which is again prior to my commencement in the role as Auditor-General. It had been identified by my predecessor.

**Mr ANDREWS** - I can't say with any certainty how it got onto our priority, except as Rod mentioned, we do environmental scanning and when it came onto the program from time to time we have discussions about what is happening. I think the renegotiation of the Federal contracts, for instance, comes up from time to time, so that may have been, but I can't say with any certainty.

**CHAIR** - If you could go back to your records and find out who introduced that in 2014-15 that would be helpful.

Mr WHITEHEAD - We will do that.

**CHAIR** - Numbers of staff you have at the Auditor-General's Office and do you outsource your work or is it all in-house? How does that work?

**Mr WHITEHEAD** - We have about 45 full-time equivalents within the office. They are spread across our Hobart office, which has the majority of people and also our Launceston office. Hobart has close to 35 full-time equivalents, Launceston has around about eight. Within those staff numbers we have a number of different divisions within the office. Under our act, one of the things we must do is the financial audit of state entities. We have about 25 people involved in our financial audit team. We also have a performance audit team that undertakes other investigations, inspections and audits that we can do under our act, specifically performance audits. We have around eight people within that team.

We also have the Office of the Auditor-General, which provides technical quality support to the office and that provides support to not only myself but to the performance audit team and the financial audit team in terms of accounting standards, auditing standards and other developments that might impact on the work that we do. We also have a corporate support team within the office.

CHAIR - Were you somewhat relieved when this inquiry was first mooted downstairs? Term of reference 1(f) - harm minimisation - was one of the original terms of reference but the Government wanted this inquiry finished by 15 November. I was a little bit surprised, from the committee's point of view, when I saw that the Auditor-General was undertaking work such as this to report back to parliament by July or June of this year. Can you understand that? That is why it was important for you to come along to put on the table your role and how it came about. I was a little bit surprised at that. Would you like to comment on why? It would seem strange to me, if there was another group and you knew your program for 2016-17, why the Government would initiate a committee review to be finished by November of last year when your group hadn't even commenced your work on this term of reference.

Mr WHITEHEAD - I am probably not in a position to really provide any insight into the decision of the Government in regard to the work of the committee and around the timing of the committee's report. All I can say is that our annual plan of work is a public document and that there is an awareness around the projects that we do. When we consult with various people within government and also the Public Accounts Committee, we broadcast the work that we are doing. To the question you have asked I don't have a specific response.

**CHAIR** - A tender has gone out for the fourth socio-economic impact study. How close are some of the criteria references in that to your department's? Is there any cross-over with what that study will look at? Now we have not only the Liquor and Gaming Commission doing a report, you are doing a report, the fourth impact study is going out and this committee is doing some work and we have to report back to parliament by September of this year and yet your report is not going to be available until June. That probably puts us in a bit of a squeeze play because we would want to see the results of your report. I don't think the impact study is going to be available until August.

**Mr WHITEHEAD** - We are endeavouring to complete our audit as quickly as we can. Our date for tabling is scheduled for early June. We are endeavouring to commit to that date and table the report by that date. In terms of the reference you made to the socio-economic impact study, I might as Danny to respond to that question because I know that he has looked at that as part of the work that we have done today.

Mr MOORE - We see that as part of the base research for harm minimisation measures in particular, but there is a lot of other research around as well. Also, it is a very specific focus that the SEIS has. We feel that an independent view wouldn't hurt. It would add to and contribute to the debate and that is one reason why we thought that the audit still had some value. Also, this is combined with the fact that we are also looking at other areas such as a full check of the due revenue and community service levy calculations to give the audit some materiality. We have a broader scope than the SEIS and feel that therefore we can make some kind of contribution.

**CHAIR** - For the return to government revenue or Treasury, I know that you are not in the habit of making recommendations, it is more findings in your report. Do you make some assessment of what is on the table at the moment or the current agreement and the percentages, that sort of thing?

**Mr WHITEHEAD** - We do make findings and recommendations within our report. In regard to the revenue collection side of the audit that we are conducting, to a large extent that is compliance-oriented so we are looking at whether or not the government is collecting its correct share of the revenue and then whether specifically whether the correct amount of the community support levy is being recognised as well. To that extent, they are compliance-related audit activities that we are doing in those two areas.

For the third element of the audit, which is really looking at the community support levy and how those funds are distributed, there are specific requirements within the legislation that talks about the percentages and how that is allocated. We will be looking at and making sure the funding is allocated in accordance with those requirements. We are specifically also looking at the effectiveness of the harm minimisation measures. That is looking at where that funding goes and whether or not that funding is providing some effect in terms of harm minimisation and the programs that are in place to mitigate or minimise harm related to gambling activities.

**CHAIR** - We've heard a lot through this committee about harm prevention, more so than minimisation. Are you in a position to make comment about whether the dollars spent at the end of the thing for minimisation would be better spent at the preventive stage of it? Within Health that happens quite a bit, asking whether we should put more money into preventive health rather than at the end of the road. Do you go into that area?

**Mr WHITEHEAD** - That could be something that we may look at in terms of that particular audit criterion. We are probably more focused on looking at where the money has gone and trying to assess whether or not there has been some effective outcomes, or whether the objectives have been achieved in terms of where the money has actually been allocated. In terms of making a view or finding around whether or not it should have been directed in some other area, if we come to the conclusion that the findings were not effective, it may give rise to a finding that perhaps there could have been an alternative use for those funds, such as prevention.

**CHAIR** - Following on from that then, if you find there is not enough money to be able to do the harm minimisation measures because the percentage levy is too low, would it be in your

bailiwick to make a recommendation to the government that what you are taking for the community support levy is not enough percentagewise?

**Mr WHITEHEAD** - We probably wouldn't make that particular finding because that is probably more a matter of government policy in terms of the particular rate that they use or provide for the community support levy. I don't think we would be looking at making any finding in regard to the level or appropriateness of that particular rate.

Ms RATTRAY - In relation to the harm minimisation measures and particularly the organisations that look after those areas in your audit, are you looking at each individual program or are you looking more at the overarching direction of harm minimisation? Are you getting right down into the detail?

Mr MOORE - I would say yes. We are very keen to see in some of the NGOs that have talked to us so far the kind of data they keep and how they can give us evidence to indicate that the programs are successful. That is one of the reasons why one of the subcriteria we put in was to look at relapsed rates. It seems to be an area that nobody looks at. Do people actually struggle over a number of periods and repeated attempts to get off problem gambling or move along the continuum of problem gambling? We are hoping to have a reasonably detailed look at programs and how they function, what kinds of data they keep and whether they can give us evidence of their effectiveness.

Ms RATTRAY - There will be KPIs?

Mr MOORE - That's what we will be looking for.

Ms RATTRAY - I know your department likes KPIs.

**Mr MOORE** - We love our performance measures and to see that people can actually prove that what they are achieving is measurable.

**Ms RATTRAY** - You will be looking at individual organisations and not just the overarching peak body or anything like that?

Mr MOORE - No.

**Ms RATTRAY** - You did say that you were doing your best to hurry the June reporting along. Is there any likelihood that we might see it before June?

**Mr WHITEHEAD** - No, it is unlikely. Because we need to table our report in parliament, we are limited to some extent by the parliament sitting dates.

**Ms RATTRAY** - We can organise an out-of-session for you.

**Mr WHITEHEAD** - We can have an out of session, but usually we prefer to table it when parliament is sitting. We have selected a date when parliament is sitting and we are aiming for that date.

**Ms RATTRAY** - I appreciate it is a large body of work, having looked at your terms of reference for the inquiry. I was just hoping you might be able to do it a bit quicker.

Regarding the research for harm minimisation, are the organisations rolling out the programs the same organisations that are doing the research, or is that a different area?

Mr MOORE - Yes and no. Some organisations have research components within them and some of their research is highly valid. I think we need to take a broad scope on research. I have made up a list of the research we have looked at so far and we are looking at also making some comparisons with other jurisdictions. We would like to see, for instance, that there is some evidence for the effectiveness of harm minimisation measures that can support the kinds of measures that have been taken. Even such things as increasing the amount of signage or having trained staff. Do those things work? Is there anything that makes a tangible difference to the kinds of rates of problem gambling? That is where we are going to be looking.

Ms RATTRAY - We have, as a committee, heard some evidence that there isn't any responsible gaming accreditation that people need, like there is with responsible serving of alcohol..

Mr MOORE - We will see what comes out of it all.

Ms RATTRAY - That would be interesting.

**CHAIR** - What we wanted to do is get on the record what you are doing so we could understand some of the crossover information. If that report is sitting on your desk six weeks before Parliament sits in June, we could always call you back into camera. From our point of view, we want to make certain that we have the most relevant and up-to-date information, and you are doing a large body of work that is going to help this committee inform ourselves about those particular terms of reference. I definitely don't want to miss the opportunity to use that body of work in our report to make it conclusive.

**Mr WHITEHEAD** - We have copies of the audit planning memorandum here so we can provide those for reference as well. To some extent that was summarised at the beginning of our evidence.

**Mr ANDREWS** - We can also table a list of references from Danny that we have referred to as information which may assist the committee.

**Mr MOORE** - So far it is preliminary.

**Mr ARMSTRONG** - For more clarification, you were saying in your report about the CSL and where that money is expended that you actually look at all those organisations, and then make a recommendation that that was appropriate or not appropriate, so to speak?

**Mr WHITEHEAD** - We are looking more at whether or not each are in accordance with the act. So we are looking at the percentage allocations within the act. There is discretion from the Government's perspective in terms of where it provides that funding, but we will be making some observations around that within our report, I expect.

**CHAIR** - Thanks once again and best of luck with the work.

THE WITNESSES WITHDREW.