

Policy Pitch - What's happening to graduate employment? **Melbourne 16 June 2015**

In 2014, new graduates of Australian universities faced the toughest labour market ever for university-qualified people. Nearly a third of those looking for full-time work had not found it four months after completing their degrees. At the same time, one in five graduate employers indicated that they would have hired additional staff if more appropriate applicants had been available. This Policy Pitch event looked at what is going on in the graduate labour market and what might be done to improve employment prospects.

Speakers: Andrew Norton
Anne Younger
David Carroll
Professor Beverley Oliver

ANDREW NORTON: Welcome everyone to the State Library for the latest of Grattan's *Policy Pitch* forums. Tonight it's on graduate employment. My name is Andrew Norton, I'm the Higher Education Program Director at the Grattan Institute and what I'm going to do tonight is lead the panel on discussion for about half an hour or 40 minutes and then we'll hand it across to the floor for questions. Some of you submitted questions beforehand, unfortunately due to some staff illness at Grattan I don't have them and so you'll have to ask them again tonight.

We'll start with the introductions. So Beverley Oliver here is Deputy Vice-Chancellor Education at Deakin University and she's been a very important figure in thinking through what makes graduates employable, how do universities ensure that graduates are employable and then prove to prospective employers that graduates are employable. David Carroll works for Graduate Careers Australia which has been the leading organisation collecting information on graduate employment for several decades now and it's thanks to the work that they have been doing that we've actually got a pretty good sense of what's happening in the graduate employment market, at least in the first few years. Anne Younger is from the Australian Industry Group and so she's representing the employer perspective, so looking at what employers are actually seeking when they're hiring graduates and what issues they have with their employees.

So I'll start by giving you some background to why we're having this session tonight. So late last year we had the latest in this long series of surveys released on graduate employment, this is the Graduate Destination Survey and this is a survey of people about four months after they finish university. And what this showed was that graduate un- and underemployment, so people who have got a part-time job but are looking for a full-time job, had reached about a third of new graduates which was the worst number we'd ever had. So it was worse than the early 1990's recession, but we were getting this terrible figure without a recession. We spent a couple of weeks at Grattan over Christmas trying to work out what's going on with these numbers and it's actually a mix of two things with this group.

We've got a substantial increase in the number of people completing a bachelor degree but, at the same time, we've got an absolute decline in the number of full-time jobs available for those graduates. So the obvious consequence of that is that graduate un- and underemployment is increasing. At the same time we've got what seems to be a bit of a paradox, there's also a survey of graduate employers also done by Graduate Careers Australia and what it consistently finds is that around one in five employers would have hired more graduates if they could have found more appropriate job

applicants. So we've got this mismatch in the market that employers want to hire more people, we've got lots of people looking for jobs, but we can't get a match between them.

Tonight I want to look at this issue from several not mutually exclusive angles. One is what are the skills and attributes that employers are actually looking for; is there more that universities in general can do to improve those skills and attributes and prove them; and then bigger questions about whether there is something going on in the graduate labour market that means even if we do improve all these things there are still going to be long term issues in graduate employment.

So I want to start with what's actually going and I'll start with David Carroll. David, can you tell us a bit more about recent trends in graduate employment?

DAVID CARROLL: Certainly Andrew, well just alluding to what you were saying earlier, this latest year, it was 2014 the data was collected and that showed that indeed it was the worst year in terms of full-time employment rates since the survey began in the 1970s, and that is data collected on new university graduates about four months after they've completed their degrees.

In recent times the graduate full-time labour employment rate was fairly consistent through the mid-1990s to about 2008, when the global financial crises of course occurred, and what happened then was we basically saw a progressive decline in the full-time employment rate for recent graduates. And it was a little bit of a surprise to us because going back to the data that we had on the early 1990's recession there was a rapid plummet in the full-time employment rate which continued for about two or three years and then went up again and hovered around that mid-80% mark for 15 years. But what we've seen since 2008 is that the full-time employment rate has just continued to decline more or less continuously and along with that there's been an increase in the unemployment rate and also an increase in the number of people who just go into part-time work without seeking full-time work. So essentially there's been a decline in the full-time participation rate as well.

ANDREW NORTON: Do you think people are happy with this part-time work or just adjusting to reality?

DAVID CARROLL: I would say that both are true for different people. It's hard to know without having data that we don't have access to, but I imagine that there's a bit of both.

ANDREW NORTON: What about differences in disciplines? Are there particular disciplines that have been hard hit or is it across all disciplines?

DAVID CARROLL: There are actually very marked differences across disciplines, but interestingly they're the kind of differences that we see even in times of relative economic prosperity. Like, for instance, even at the moment fields in health tend to be the ones with very high employment rates. At the other end of the spectrum, and in often cases 50 percentage points below the health fields, are the fields like humanities and social sciences and visual and performing arts, fields of that nature. You see a similar thing if you consider starting salaries instead of full-time employment rates, you also see the health fields and different flavours of engineering, I might add, are also very strong performers in the labour market, they tend to be at the top. Fields in humanities, social sciences, visual and performing arts, architecture tend to be at the very bottom. So there are considerable differences.

ANDREW NORTON: Have some deteriorated more over this time? I know that some of the science courses have done particularly badly in recent times.

DAVID CARROLL: You're quite right that it's deteriorated but even in fairly good times science is a low performer, but with science you have to look at also the proportion of students going into further full-time study. So the participation rate in the full-time labour market is really low for science graduates and that's because in some different types of science courses 50% or thereabouts continue immediately on with full-time study. It's the kind of thing that the outcomes aren't particularly good for them because it almost implies that in a lot of science courses you actually need a higher degree to actually be able to enter the labour market.

ANDREW NORTON: What about male/female differences, are you observing any shift there?

DAVID CARROLL: The biggest shift in regard to male/female differences is in the participation rate. We see males are more likely to be seeking full-time work; female graduates tend to be more likely to be in part-time without seeking full-time work. But in terms of the actual full-time employment rate of those who are actually participating in the labour market, no, there's not a lot of difference between men and women in that regard.

ANDREW NORTON: There's also a three year out survey which you do, the Beyond Graduation Survey, are you picking up any trends in that at this stage or is it too soon?

DAVID CARROLL: We see an improvement basically which is an interesting context for the four month out survey. In some respects four months out in this day and age might be too soon to really get a reliable picture of what full-time employment rates are doing. So that's an interesting thing to note is the survey that we're getting the data from was originally designed in the 1970s and, for matters of data continuity, we've continued with that questionnaire, but the thing is the structure of the labour market has changed a lot since the 1970s and that four months out perspective may not be enough time for graduates to get jobs in the current day and age.

So when you collect that data again three years out you see that the participation rate's increased considerably, the employment rate's increased considerably and salaries have increased considerably, which implies that there may be jobs out there for a lot of these graduates, it's just that they're taking longer than four months to get them.

ANDREW NORTON: So the jobs that people are getting, are you aware there's been any decline in the quality of them? So we hear stories of graduates working as sales assistants and in jobs that don't typically require a bachelor degree.

DAVID CARROLL: I had a look at that this afternoon because I expected a decline in the figures without really knowing what they were doing, and they've been surprisingly consistent. They've hovered around I think about the 70% mark since the crisis, which is when that question was added to the survey, so I'm afraid I can't tell you much before then. But in spite of the deterioration in the full-time employment rate there hasn't been a lot of deterioration in the quality of jobs, which it almost seems like that there's an amount of graduate jobs in the labour market that hasn't been growing. It hasn't been declining, but it hasn't been growing but, like you said earlier, the number of people

looking to take these jobs has increased and that's why you see an increase in the unemployment rate and no real change in the number of people in appropriate graduate jobs.

ANDREW NORTON: So one of the big questions for both students and universities is does which university you attend make a difference to employment? Do you have views on that?

DAVID CARROLL: I do and I can speak in terms of what graduates get paid based on the university, that's the research that I've done. I would say once you take everything into consideration no, there's not a lot of differences between universities that I can see. It's actually a fairly difficult thing to estimate statistically because you have a look across universities and if you just take every university and produce a dollar figure for what their graduates earn, you see a lot of difference across universities. But then you think well, universities offer different things, we need a control for that, so you plug that into your statistical model and the difference between the universities shrinks. Then you think well, universities tend to recruit different people, some take from the very top of the ability distribution, some take from further down the bottom, you plug that in and the difference shrinks again.

So once you do all of those controls no, there's not a lot of difference between them.

ANDREW NORTON: Anne, do you have views on whether employers favour particular universities or not?

ANNE YOUNGER: Well yes, we think that there are reasons that they favour different universities, but for different reasons. I'm not totally disagreeing with what David says but I asked our graduate connectors, our research connectors, we have a team at work and they connect graduate researchers with our member companies, and I asked them the other day did they think there was a difference, and they're out there all the time, and they said it's a whole lot of things. Some of them think that brand power is important, so some of the bigger universities. A lot of them said some companies know which universities specialise in their industry area and often that's the case if they're involved with R&D and so they'll favour those unis. Others work on the fact that they've employed graduates before from a particular uni and so they will stay with that uni. Others actually choose graduates because they went to that uni.

So there are a number of different reasons, but they all said that experience is an important factor in all of those. I think it always has been but it's becoming more important and that's why we're involved with a national strategy about we'll all work integrated learning, which a lot of people still call graduate placement, but perhaps that's getting to the solution. So we might get to that later.

ANDREW NORTON: Yes. Does this make it harder for newer universities, higher education providers to break into the market where employers have these entrenched views based on past experience?

ANNE YOUNGER: It could do, but it depends on the links that they make. I think they've got to go out of their way further these days to stay in touch with the business sector, particularly in fields that they're trying to specialise in.

ANDREW NORTON: What's your general impression of the level of university interest in work integrated learning, for example?

ANNE YOUNGER: University interest did you say or company interest?

ANDREW NORTON: Well, on both sides. How interested are universities in this whole employability issue?

ANNE YOUNGER: In our workforce survey that we did last year, 50% of the employers we surveyed said that they do have a scheme of placements at the moment. I thought that was quite a good and high number. Now we know that they're all varied, there is no one model, and that's one of the problems because a number of our smaller members say that they might link with unis but they're not quite sure whether they have to pay them, what the regulations are, how long should it be and things like that. So that's some of the work that needs to be done to work on some models.

So I think a number of our employers are interested and I think universities are becoming more interested. In the national strategy that we have we're partners with ACCI, the BCA, Australian Collaborative Education Network and Universities Australia, and we've been having a number of national forums and all universities are sending reps, everyone's interested. But we're not talking about add-ons, we're talking about true integrated learning which changes the courses and we've been involved with a lot of universities that are still trying to work on that. And unis also may have particular faculties I think that are right into it and others that are not.

ANDREW NORTON: A lot of these employer surveys focus on more general graduate attributes, such as their communication skills and their teamwork and things like that. Do you see it as the responsibility of universities to develop those things or is that the employer's role?

ANNE YOUNGER: I think that it's not about responsibility; I think the universities are now going to have to develop those, again, through experience, courses that change to have experience built into them. We've got, again, in the workplace survey we did last year in terms of recruiting graduates employers said the most important thing was a fit with the business culture and the next most important was to have work experience, and that was equal with the type of qualification. Now, I think it's really interesting that the type of qualification doesn't come first as the most important thing; it's a fit with the business culture, and more and more our employers are saying this is the problem in terms of difficulty in recruiting graduates.

When they actually were recruited there was actually a high level of satisfaction with graduate recruits from employers and where they were dissatisfied with graduates it was, again, in areas of teamwork and initiative and enterprise. And to me these are all the soft skills that I think we've always been talking about, but they just seem to be growing.

ANDREW NORTON: So how do you teach fit with business culture, given there are many different business cultures out there?

ANNE YOUNGER: I think really they're talking about teamwork, initiative, enterprise, those sorts of attributes, being able to work on what the employer has for them and to be able to apply what they've learnt at uni. And the only way to do that is to try and have work experience built in.

ANDREW NORTON: Beverley, for many, many years universities have had lists of graduate attributes that they claim that their graduates will have on completion. How well do you think universities have actually been producing these graduate attributes?

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BEVERLEY OLIVER: Well, who knows Andrew? I think it's fair to say that we have had these lists, in fact on your chair I bought some take-home gifts and one of those things is I thought I would bring our list. And that list is more or less the same as everyone else's list plus or minus two or three and in a slightly different order; I'll say more about that in a minute. But this is not a new thing. We've had this for at least about 15 or 20 years but it's also well-known and well-researched that we haven't done a lot about them, up until recently that is.

So I would say until about five years ago much of this was simply advertising, you know, "Come to us" and I think Deakin, for example, ten years ago there was "This is the Deakin difference", we have little slogans and so on. And I guess the common understanding in the sector that this is often come, pay your fees, graduate, you'll get this by osmosis walking through the hallways, and we know that and I think most universities would admit to that. But I think it's also fair to say we've done an awful lot of work much more in-depth on this in the last five to ten years and it's at the discipline level and the university level. So for example, discipline groupings, arts for example, architecture, engineering, have all developed these into standards and threshold learning outcomes and we have a Higher Education Standards Framework now which is very focused on outcomes and in the latest proposed standards we are required by the regulator when these are promulgated to be able to demonstrate that our students actually have these.

So I guess what I wanted to say about that too is what we've done with these is actually embed and assess every single one of them in every single degree. Not every single part of a degree, a unit, but in a course as a whole, the whole thing is designed around all of this. Number one is knowledge, you won't get past a university committee if you don't put knowledge first because we're very keen on our disciplines and we should be because we want our graduates to know their stuff. But we also need them to be able to have what we would call employability skills, graduate learning outcomes. We tend to not call them soft skills because they're not soft, they're actually hard. These are the really hard things to do and so on. So I think we've done a lot more than we were doing before.

ANDREW NORTON: So how are these actually taught? Is it integrated with the discipline content or is it taught separately?

BEVERLEY OLIVER: It should be in context because even though that looks like a recipe list that's not actually how it works. So we're talking about a whole person and it's not easy to separate them into like a tick list, and nor should we, but by putting them in a list we want to draw attention of students to them as well.

So students have these, for example, at Deakin and many other universities and we put to them that it is partly their responsibility through the curriculum to show that they can do these things, but also to build those skills, attributes and so on and evidence of those things through the rest of their lives. So if they are working, and many of course are, they should gather evidence from their workplace. Even if it's at McDonald's, that's okay, you can learn lots of these great things apart from the discipline knowledge there. So it is partly a personal responsibility, but it's also about embedding them in the assessment. In my view, it's not about necessarily teaching, it's about assessing because what you put in the assessment is what students will really, really focus on.

ANNE YOUNGER: Andrew, can I come back in there? I just wanted to talk about some quotes.

I asked our Learning & OD Manager at one of our large members, it's a chemical and plastics manufacturer, and I spoke with her last week and I just thought I'd give some quotes about what she said was needed. It's really only still backing up what you're saying Beverley, but I just think it's powerful to hear what they say. She said what they look for in grads is more corporate industry experience, more opportunities presented to understand and experience the changing face of Australian work, whether tech changes or lean structural changes, and understanding the impact on the Australian industry of globalisation. So in other words, she's saying they want them to come with that already. Another company, they're a polymer manufacturer, said everyone tasked with looking for candidates would like someone with one to two years' experience.

BEVERLEY OLIVER: Great.

ANNE YOUNGER: And then the same Learning & OD Manager said, "I don't believe they lack the skills, perhaps a better term would be fine-tuned or untapped potential". She said, I love this, "We definitely look favourably at grads who show entrepreneurship, take initiative, are creative, think outside the box and are not afraid to ask questions". So it's not a big ask is it? But I think one of the issues and I'm sure, as you're saying Beverley, that many people in unis are saying that those are begin instilled into students. I think the issue is out there in the business world, in industry. I think the changes from disruptive digitalisation - and we're all seeing it and it was in the CEDA report that was released today - are just transforming industry so quickly that the mix that graduates need these days is changing all the time and even industry can't keep up with it.

I saw the other day the use of saying we can't give them fixed knowledge anymore; it's got to be fluid knowledge. Now I'm not quite how we teach fluid knowledge, but I think the concept is really interesting because it's all changing. So I think if everyone gets the mix right of how to teach that fluid knowledge, and there was some discussion about it's about giving them minds to explore more and problem solve, then perhaps that's how we'll have graduates then that are not having difficulty being employed.

DAVID CARROLL: It's interesting you say about that fluid knowledge because we do an employer survey as well and one of the things that comes up consistently, it's something that the employers value very highly in a graduate, is the ability to learn. It's not just the ability to learn at university.

ANNE YOUNGER: Basic though.

DAVID CARROLL: Yes. But I think it's teaching graduates to continue to learn how to learn, just so they can pick up all these skills. Because you're right, you can't teach fluid knowledge because what does that even mean, but you can teach the ability to keep up with this knowledge as it develops.

ANNE YOUNGER: Yes.

ANDREW NORTON: Beverley?

BEVERLEY OLIVER: I was just going to say that it is a tough ask. If you're the CEO or the person who's doing the recruiting you have a level of expertise and you have to remember that you didn't always have that. And the new graduate perhaps who's coming to your industry comes as a novice in some regard, and maybe they bring new skills that the others don't have, but everyone has to start

somewhere, and I guess it's about not over-expecting too much either. It's a bit tough expecting experience. It's a kind of endless loop.

ANNE YOUNGER: Yes, although if experience is looked at in terms of being built into courses more often than that can be appropriate. But I think it shows the pressures in the business world, the fact that they do want everyone to start on the ground and running as soon as they get there. So the pressures on them and perhaps one of the solutions within industry is trying to have the buddy or the mentor more often when new graduates come.

BEVERLEY OLIVER: I might just say another word about work integrated learning if that's okay Andrew? I think it is a term that every university is very fixed on and I think it would be fair to say that all universities are also very focused on graduate employment or graduate employability. This is very high on our radar. I think also that work integrated learning, from the research I've read, is not a term that's well-understood by industry and it usually is code for placements. But that's also tremendously difficult because businesses can't always provide – I say "businesses" but of course there are many disciplines that we prepare students for, nursing and so on, it's not just business. But it is quite an ask to have placements, so the other thing that we're trying to do is actually to have a range of work integrated learning experiences.

So if I go back to some of the most basic, for example, to rethink assessment, to be less testing of knowledge and more applied simulated scenario-based problem solving. I know that we're all trying to do much more of that and that's very hard to see, but there is an awful lot of work going on around rethinking assessment because you know you can't always place students in a particular industry and so on. So it's about getting a range of experiences right through the degree.

ANDREW NORTON: How's this done with people who are studying online? Is that a particular challenge? It's a growing area of the market in higher education, but they're more remote from some of these experiences than on-campus students.

BEVERLEY OLIVER: I guess it depends what you mean by online and when we think online I think we, collectively, often think I would read that on a screen and I would type my answers and that is true of a lot of online. But as technologies become more capable - and I won't even go with broadband but when it does come - online should be as what we're doing now. We, the collective population, use Skype, FaceTime, we talk to people, we talk to people on our phones, this is what online should mean, digital. It should be interactive and engaging and so we should be able to do much more of this. Bearing in mind as well that teleworking itself will become the way people work.

At the CEDA launch today we talked about flexible work, a job from nine to five in an office remote from the home will probably become less common. Even now many of us work on the tram, we work from home every now and then, because you can and students do that too and that's part of working in the future I think is working in the digital world. So I don't think it's insurmountable at all.

ANDREW NORTON: You've spoken about the need to have these graduate attributes. How are you going to include them in the course and how are you going to put them in an assessment? How do you prove to other people that students have these attributes?

BEVERLEY OLIVER: That's also quite difficult because, as you know, in universities what we tend to do with learning is we distil the outcomes to codes, high level signals and codes usually called marks and grades, and those marks and grades sometimes camouflage a whole pile of different things that went to go to make up that mark or grade. So, for example, a student might write a report and give a presentation and so on. How do you actually identify whether they've got really good communication skills out of that because it's all mixed in?

So one of the things that we're trying to do is to credential the graduate attributes separately and so that would be another little item on your takeaway there. I might just mention that it's called Hallmarks. We're piloting this this year, meaning we're trying to identify outstanding achievement of those particularly highly employable skills and warrant that students have demonstrated them. Now it's only a new idea, we've only just started, but we've had very positive reactions from employers so far who say that's like a university prize. In other words, independent of your marks, grades and credits we've identified that you are an excellent team worker and we know employers are looking for that, and so it would be something that lives with them on their CV and so on. So that's one way.

What we try to do though is to make explicit in the assessment and the standards and the grading that we have actually made sure that the student has that range of evidence. But then we also want them to know they have that evidence, to make them responsible for collecting that evidence as well.

ANDREW NORTON: Anne, what do you think of this kind of micro-credentialing of particular skills rather than the whole degree?

BEVERLEY OLIVER: Say it's a great idea will you?

ANNE YOUNGER: I actually wanted to get onto STEM, science, technology, engineering and maths skills. Our surveys last year and two years before that are showing that increasingly it's a problem for employers and it's STEM occupations that are going to be most of the occupations in the future because of the changes we've talked about and higher order skills and technology. Employers have been saying that they have difficulty recruiting graduates with STEM skills and the barriers have been that they've said they don't have the right qualifications that include STEM skills within them. But then again, they say the barrier is about work experience and about not having the employability skills.

So it's still wrapped up in that, but STEM is an area that as a nation, because we're falling behind in terms of global competitiveness reports too, we need to build within our universities. You talked about the science disciplines before David, I think?

DAVID CARROLL: Yes, that's right. There are a lot of science graduates that after they finish their bachelor degree they continue straight on to further study, more so than any other field.

ANDREW NORTON: A lot of this to me is the paradox that I was talking about at the start, that we've actually got lots of underemployed people with STEM degrees, yet we've still got employers saying they can't find particular STEM skills. This is why I'm particularly interested in whether they totally lack the skills that employers are looking for or they're just unable to prove that they have these skills?

ANNE YOUNGER: I think it's the mix, as I've been saying. They don't have them but they're unable to show that they're built into what they do have in their capabilities because they seem to be unable to show that they can operate within a business, even when they're going for the jobs.

What's happening to graduate employment?

ANDREW NORTON: Do people think that there is any trend in the quality of graduates that might be contributing to poor employment outcomes? The background to this is that over the last few years in particular there's been a huge increase in the number of students going to university and as a result the ATARs required for admission have gone down at a lot of institutions, and whether this might be starting to flow through into the graduate labour market. That even though, as David said, there are still a lot of good jobs out there, we've got a larger tail of people who are probably going to struggle compared to the more academically talented graduates? Any takers? Anne?

ANNE YOUNGER: All I can say is what employers are saying and you were just saying it, they're having more difficulty in recruiting what they see as good graduates. Now if that is a result of that then perhaps that is occurring, but I don't necessarily think that it's because there is any sort of dumbing down. I still think it's about the fast-moving world, employers wanting people that look like they can cope in that business world rather than have been in a university. I don't know.

BEVERLEY OLIVER: The ATAR really, as you say, is a measure of how you went in a particular exam and there's a whole lot of literature around that, and of course it's not always a great indicator of students' talent or further outcomes as they mature. I guess it's also very much tied to school leavers and many people who are coming to universities and other higher education providers are not school leavers, and even if their ATAR, that particular magic number is not maybe spectacular, they often make some of the greatest employees and the best graduates. Because what I'm hearing from our earlier conversation is that the things that people are looking for and can't find, they're looking for entrepreneurial, emotional intelligence, teamwork, that doesn't come in an ATAR. They're not the things, which is why we're trying to go down this path to say we're still focused on discipline, knowledge and marks and grades like everyone else, but we think it's other things that really matter.

I guess the other thing is that if we're talking the school leaver market, part of it is the maturation process which may or may not be reflected in an early entry into university. So I'm not a great fan of the ATAR I have to say. I think it's got its uses, but for many universities higher than 50% of the intake is actually not school leavers; even if they're young adults and they're in their early 20s, many of them are much older as well.

DAVID CARROLL: The other interesting thing with ATAR is what you were saying is quite correct, we have seen in recent years that there has been a dropping of the ATAR cut-offs in a lot of courses. But if you take the ATAR scores across the universities and then correlate them with attrition rates you see that the institutions that take in the lowest ATAR applicants are also the ones that have the highest attrition rates, particularly first year undergraduate attrition rates. So it could very well be that a lot of these individuals who are admitted on low ATARs never actually make it to the graduate labour market. I don't know if there's been any data on that, but it stands to reason.

ANDREW NORTON: There is. I was involved in a review of the funding system a few years ago and only about half of the people with ATARs below 60 actually finish a degree, so a lot of them do never make it to the employment market. I've got one more question for the panel and then I'm going to go questions, so start thinking of your questions. It's a fairly big question though.

There have been a couple of references tonight to a CEDA report, this is a report that came out today on the future of employment in Australia. I've only had time to read parts of it, but I think there were some contrasting views. There's one chapter which was looking at the potential for automation of jobs

in the Australian economy and came up with a figure of about 40% of jobs are vulnerable to automation. But there are other chapters which I think were more optimistic, at least about the recent past in employment outcomes and, for example, finding graduates are still doing pretty well on average over time. Does the panel have any view on whether graduate employment is going to become more vulnerable to automation?

BEVERLEY OLIVER: I do. I think yes, there will be changes in jobs, jobs will disappear. I think many jobs will go offshore. I think it was Friedman, you know, ten years ago the world is flat, suggested that early entry graduate jobs such as basic accounting, for example, would go to other countries and I think that's probably happening. But I'll go back to what I said before, I think the world of work is changing anyway and I think one of our responsibilities is to prepare students and graduates for life and for whatever career they're going to start on, because there's every chance that whatever their first job is it won't be their last.

I think though I tend to talk and think less about jobs as in full-time regular jobs as we know them now. I think our job is to help the graduate get to wherever they want to go to the best of our ability, but to think also about helping them discern what the skills are that they need as life evolves and to be able to find and create their own meaningful work, part-time, short contract, long contract and so on, because I think we are all going to move in and out of work in a different way than simply going from full-time job to full-time job. I think it's going to be much more short term and I guess one of the things I think we need to work on is helping graduates and educating them to be able to create work. We're all aware of the start-up culture, entrepreneurialism and so on and I think that's going to increase, so I think that's something that we as universities need to focus on more.

DAVID CARROLL: I think it's interesting in terms of the results, which I only skimmed today as well, with the digitalisation of jobs. But it's interesting to note that this certainly isn't the first time that this kind of thing has come up because I read an interesting paper once that back when computers started to become available in the workplace you had computerisation and a lot of people thought that that would hit low income jobs, all of this automation.

But one of the surprising things was that it actually hit engineers pretty badly and that's because a lot of engineers, one of the things that they used to do is sit around and calculate, you needed a person with that kind of training to do the necessary calculations to be an engineer. As a result, they employed lots of engineers to do calculations and suddenly you had a computer that could do this exact thing and it wasn't the end of engineers and, as I said earlier, it's still one of the fields that's doing the best, it's just that the nature of the work changed to suit. Now the engineers had this incredibly powerful tool at their fingertips and they were able to use that as a productivity tool. Lawyers was the same thing, being a lawyer used to be a lot about legal research and that's something that a computer can do really well and, of course, the job changed to suit that.

So no, I think that things will be fine. I think in the long term you'll see the nature of graduate jobs will change and a big thing that the universities I think have to do is to make sure that people change along with it. A term that used to be used a lot, I assume it still is, "lifelong learning", that you do a bachelor degree but that's certainly not the end. And we see that in the results, people go back and do masters degrees, they do second bachelor degrees, people retrain, and I think that that's going to be the future. I think it's very unrealistic to think that you will get a degree in a field and that will be

your field forever. I think there'll be a lot more retraining but no, I don't think we're seeing a long term structural problem for the highly educated.

ANDREW NORTON: Two optimists, are you an optimist as well?

ANNE YOUNGER: I also think in the long term it's a rosy picture. I think we may not even actually talk about employing graduates because the view is that the mode for workers is going to change too, that there'll be more outsourcing and more contracted individuals and fewer employees. But besides that I think with higher order skills we will always need a generally highly educated population and we know that that leads to greater public benefits and a richer society and we won't let the cyborgs or the robots beat us I don't think.

ANDREW NORTON: Okay, so the panel has some short term pessimism and long term optimism. I'm going to open up to questions now.

AUDIENCE: Based on some work done in the US by us over many years I ask the question, in the US they don't have ATARs but they have a similar thing, in separating what you might call low education achievement - call that ATARs, whether it's a good measure or not - but low SES that goes with it. Does the panel think that you can actually mix high SES and low SES and still achieve equal outcomes for both?

ANDREW NORTON: I have something of a view on this. This has been a very vexed question in higher education research and there are people like Gary Marks in Australia who would argue that SES, once you get to Year 12, has very little explanatory power on its own; it is all coming via prior school achievement. So for a low SES person who actually does quite well in Year 12, they seem to have the same rate of going on to university as high SES, seem to perform actually a little bit better academically possibly because their original ATAR understated their true ability, and have very similar completion rates and fairly similar outcomes. So even though there's still a lot of focus in higher education policy on SES, possibly we're targeting the wrong indicator sometimes, that what we really should be worrying about is weak prior academic preparation and by targeting that we will disproportionately be taking in low SES students but, nevertheless, that is the key problem rather than social background.

This is not saying that low SES has no impact; it's saying that the impact is kind of spent by Year 12.

ANNE YOUNGER: I'm happy to add that, as a former low SES person myself, I think we can be quite successful at university. I think many people of my generation, for example, were first in family to university and I think the risk is not so much ability, if the ability is there, I don't think ability goes with low SES. I think there is sometimes less support from home and going to university might be a foreign concept to the family, so maybe that's why the dropout rate is there. But I don't think ability goes by SES low or high.

AUDIENCE: I'm a careers advisor at a large private school in Melbourne. I'll be the first to admit that ATARs are not a perfect diagnostic tool. There are some courses that use the UMAT as a diagnostic tool. Should other courses start to employ other diagnostic tools besides ATAR?

ANNE YOUNGER: Maybe. I think they're all blunt instruments. I don't think there's any particular perfect way of deciding who should come into university and who shouldn't, but in a mass system I

guess you need a sifting and sorting mechanism and that's really what the ATAR is. In a university that I used to teach in we used to actually admit by interview. We used to interview every student, it was a very small university, but what you discover in interview is much more about the rounded person, and in an ideal world wouldn't that be lovely? But I think what we need to do is use whatever instruments we think are reasonable and then try to sift and sort from that, and it won't be perfect. But I guess what happens is as you go in and out of systems, so coming out of school naturally ATAR is the thing that you use, but after a year or two it doesn't matter.

ANDREW NORTON: I'm still a fan of ATAR, particularly the high ATAR students. I think to have any other kind of admission test would be very, very costly for both the student, and extra stress of another test, and for the university or the other testing bodies in doing it probably for no extra predictive value compared to ATAR. So high ATAR students already have extremely high completion, what is the problem we're solving? But possibly in particular courses, I think in medicine it was partly done because there was a problem with people who had ATARs of 99.95 but had no social skills and therefore weren't particularly suited to being medical professionals, so there there was a real need for a different selection procedure. But without evidence that we have that kind of problem in recruiting the right kind of person I think ATAR is cheap and efficient and we probably should keep it.

Any other views on that?

DAVID CARROLL: I tend to agree. I think that the other advantage with the ATAR is that it's an almost national system and with the flow of students between states to university I think it's important to have something like that. It's not a perfect indicator, but it's not a bad sorting mechanism.

AUDIENCE: Recent reform has enabled universities to open up places to a larger number of students, to a certain extent deregulating the number of positions that are actually available. How does that link into industry demand in terms of the types of roles that are actually available and the degree types that those students are actually securing, given that now universities can actually accept a larger number of students into each of the specific courses?

ANDREW NORTON: I've done a report on this. So what we see is that the demand from students for the vocationally orientated degrees broadly tracks what's going on in the labour market. For example, there were a lot of reports late last year that particularly in New South Wales employment for teachers was getting very, very difficult and this year we've seen a big decline in applications for education courses, and that's going to flow through into places. Similarly, engineering tends to move with the construction and mining industry. I presented at a Minerals Council conference a year or two ago and had a nice chart which I thought was tracking demand for engineering with engineering employment and I was trumped by someone who showed that a commodity price index also predicted engineering applications.

So there are all these subtle measures by which what's going on in the real world goes to the students and then the students' applications influence what the universities are doing. On the other hand, with a demand-driven system we have seen increases in almost every discipline since 2009 regardless of employment prospects. So it's certainly not a perfect system and I'm hoping over time that these information flows will become more effective in regulating the way the demand-driven system is working. So at the moment it tends to work for high profile disciplines like engineering or

teaching, but probably not for a lot of the other smaller disciplines where the media just doesn't report what's going on in the graduate labour market.

AUDIENCE: I'm coming with an education hat on but also from a student's perspective, having children going through university and embarking on this journey of trying to be employed. I absolutely agree that those entrepreneurial skills and problem solving skills are all skills that are very much needed for graduates to be employable. So my question is around what students are saying in the survey, in terms of to be entrepreneurial, to create your own work requires another set of skills in business. And from my own experience with my own children, one of the things that they've said coming out with arts degrees and spending two years working extremely hard to become full-time employed is that they've had to very early embark on their own businesses and work for themselves, but without any of those skills being taught through their courses in terms of even those basic business skills.

So my question is, I'm wondering what students are saying in the surveys, is that something they are saying, they feel unready?

DAVID CARROLL: I'm going to give you a really unsatisfactory answer and say we really don't know because we don't ask that particular question. In general students' impressions of their skill development at university are pretty high; it's one of the highest indicators when we rank them second only I think to overall satisfaction. So it's not that students are dissatisfied with the skill development that they get at the institution, but unfortunately with a broad set of indicators like the ones that we administer questions that specific I'm afraid just don't get asked. So I'm afraid I can't really answer.

ANDREW NORTON: Beverley, are there particular issues, say, with degrees like arts where there's no history of a relationship with any particular industry or profession?

BEVERLEY OLIVER: It is tough and it's a difficult conversation in most universities if you talk to those particular faculties. Sometimes staff who've spent their life as an academic teaching history or whatever it is go, "Employability? Huh". As an arts graduate myself, and I haven't taught in the faculty for a while, but I think if I were teaching there again I would think differently around it now.

I would, for example, make sure that those employability skills were built in from the beginning, even if my students were studying literature, history; all those wonderful things that I still hope people study. But it's also around from day one going to a university or a higher education provider, I think what we need to do is make sure that we don't just reduce everything to the career. University education is not just for a career, but we know 99.9% of people have that in mind when they sign up, and that's good, but we need to make them aware and sometimes they're not, particularly school leavers, that they need to start thinking about their career path from day dot. Why are they doing this, what are they hoping to do, how can we help them discover the millions of things that arts graduates actually can do in the real world, because we are employed everywhere and I think we can be. And it's about how to sell yourself, what skills you really do have. So I think it's a combination of those things.

AUDIENCE: We've been doing some research with university students around their experience with work integrated learning and the results have ranged from very satisfactory to feeling as though they're just working for free. We mainly wonder what the balance is in the exchange of value between

the university, employers and students, and how that would affect the workplace relations policies towards work integrated learning?

ANNE YOUNGER: I mentioned earlier that we found there are a great many models out there and employers themselves are confused about what they're meant to do. So that means that the experiences for students are going to differ too and they're going to be dissatisfied at certain times. So I think in terms of the balance you ask about in terms of satisfaction either way, I don't think we can get to a good balance until we've got good models and common models for everyone, both students and employers and universities, so that then we're going to get a balance about everyone knowing whether there's three months, six months, 12 months, shorter time period, whether they're paid or not.

We actually, as an industry association, are working with our Workplace Relations Team to look at what all the legalities are and so we're going to produce with the partners in the National Framework some guidelines around what the regulations are if you're taking students on and what the payments have to be and the rates. So I think it's not until we get those models and guidelines that we can look at a balance across the whole system for all those three players.

BEVERLEY OLIVER: I might just add that it's not a one-size-fits-all. Students are not all the same either and sometimes when we think students and undergraduates we think school leavers, but some students who are undergraduates have children, mortgages and jobs. Many students have jobs so sometimes they have to forgo that sort of remuneration in order to do a placement, for example, and maybe they're online and maybe they live somewhere else. So it's really quite complex, which is why I think we need to work it out very carefully and by discipline.

The other thing as well is it's not always just about a placement. Having a placement where you get to make the coffee, that's not good; you want to do real and meaningful work at the correct level. So it takes quite a bit of thinking through, I think.

AUDIENCE: My question is about the regional differentiation in employment, whether the data is showing that there are any imbalances across regions? We know that a lot of our graduates are coming out of capital city-based universities and how can regional industry or other employers build that relationship with capital city-based institutions?

ANDREW NORTON: You're a regional university.

BEVERLEY OLIVER: Well, no, apparently we're not. We are yes, but we have 11,000 students, for example, who are in the regions because they're distance or cloud students, as we call them. The answer to your question I don't know, I'm sorry.

DAVID CARROLL: That I can talk about. The last results I've seen on that no, I don't think there is a big shortage there. We look at the regional split every year when we publish the national reports, not a lot of difference between capital cities and regional areas, which came across as a bit of a surprise to us. Looking specifically for full-time starting salaries we expected to see a big difference and it's just not there. So no, it doesn't look like there's much of a problem there, but an interesting result there is that in terms of where students find work after they graduate there's a great deal of

geographic stickiness in the labour market, people tend to go off and find work in the region where their university was located.

So it doesn't appear at least that there's a big flow of people from a university into a different geographic region afterwards, it seems like you graduate from an institution and you find work nearby, for at least the vast majority of cases.

ANNE YOUNGER: A regional manager of ours in one of the areas in Victoria has been bemoaning the fact that a campus has recently gone because he finds with our member companies there, it's in a regional area, the relationships are very important and they're very important then for the employers doing better, the companies doing better and the students. And we're always saying to particularly our SME members, "Collaborate, collaborate, collaborate" and I think in regional areas the relationship both ways is very important and helps the graduates in the end. But the recent instance I was talking about, it had dropped away and so it was really affecting the region.

AUDIENCE: You've already mentioned about the Graduate Destination Survey and obviously for many years that has been the key indicator of success for universities and it's often a measure that's used for recruiting new students, and it has a whole range of purposes I guess. Given, as you've already noted, the changing nature of work and shifts in modes of work, I'm just wondering whether it's time to look at a new indicator of successful universities, given that that first job is not necessarily the best indicator of success in this changing landscape and yet that's where universities often invest their time and effort because that's what they're being measured on nationally.

I'm just wondering if there is another measure what might that be and what would it take into account?

DAVID CARROLL: It's interesting that you mention that because this is actually going to be the last round of the Graduate Destination Survey in its current form. As I said earlier, the survey was developed a very long time ago, there are some deficiencies in the current model and as a result it's going to be replaced starting next year with a new instrument called the Graduate Outcome Survey. It's still under development, no-one's quite sure what it's going to look like in its final form; it'll probably be fairly similar to the Graduate Destination Survey, I think it's even going to be administered a similar time after course completion.

ANDREW NORTON: It is, yes, a little bit later I think, but.

DAVID CARROLL: In terms of indicators, back when the Learning Teaching Performance Fund was still a thing employment outcomes was an indicator as part of that. It was quite contentious because obviously when you're dealing with employment results there's a lot beyond the university's control with that as a measure. You might be an institution in a geographic region that has a very strong economy, lots of jobs, and as a result your employment outcomes are going to be pretty good and it's not necessarily anything to do with what you're doing, you've basically just lucked out being an institution in a good region. So as a result employment outcomes were a few years ago taken away as an indicator in any of those National Performance Frameworks for the reason it just wasn't a good indicator of what the university was doing.

ANDREW NORTON: There is a three year out Beyond Graduation Survey. I'm not sure what's going to happen it under this new system, but it does have some interesting questions on would you do the

same course again and would you go to the same university again, so basically a regret question. And I think it's probably one of the best proxies, do you regret doing this and if you do it's probably a pretty sure sign that you're not happy with your particular university or particular qualification. I think IT was the most regretted degree. We've got time for one more question.

AUDIENCE: I wanted to ask about those graduates who go back to university and basically if there are any differences in their career prospects having gone back to university to do a higher degree? I'm thinking not just of science, but also of changes like the Melbourne Model where to start a career you have to undertake a second degree in order to get started. Are there any effects on careers that that's had and is there anything that might be done to the way that higher degrees are handled that could improve it?

DAVID CARROLL: I can't speak specifically to the Melbourne Model just knowing how many University of Melbourne people there are in the audience. But in general yes, the statistics show that postgraduate study is associated with better prospects in the labour market. It's a basic human capital theory, you go back and do more education and accumulate more skills, you're going to do better, and that is the general trend.

ANDREW NORTON: It's also though a deeply contested area isn't it because it's hard to know to what extent people who do postgraduate study are doing it because they're already doing quite well and therefore all that's being measured is they were already the most able and ambitious people and to what extent it is genuine value-adding. I think it's particularly interesting with things like the Melbourne Model where your postgraduate degree is still an initial professional entry qualification which only gives you what an undergraduate degree at another institution would give you, which is the right to work in a particular area, and whether teaching this at a slightly higher level actually does add value on the labour market is very hard to know.

DAVID CARROLL: Yes, that's exactly the right. The results, as Andrew said, show that and the value-add is the big question. If you can work out whether education is value-add or just basically signalling inherent productivity you have a Nobel Prize in Economics with your name on it, because it's something that no-one's ever been able to answer.

ANNE YOUNGER: I think it goes to a lot of what we've been talking about today, that even doing the higher qualification you're going to have more life skills just by the fact that you've been around more, even if it's only a few years more. I've got one that's just finishing the Melbourne Model at the moment, one of them, so she hasn't totally been out and had work experience but just because she's older I think it's going to help when she's in that fifth year.

ANDREW NORTON: So there'll be a lot of number crunching to see if the Melbourne Model has in fact worked or not or whether they are just spending an extra three years to get to where they could have been anyway. I want to thank the panel, Beverley, David and Anne. I think it's been a really interesting discussion and I hope that everyone who is a graduate looking for work or is the parent of one will at least take the optimistic long term view of what's going to happen. So thank you very much.

END OF RECORDING