

Seminar 4: 'Bridging the Gaps; Setting the Agenda'

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Microsimulation in Australia – Lessons from NATSEM

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[EDITED TRANSCRIPT]

This presentation is entitled lessons from NATSEM, but really it could just as easily be called sort of scarring experiences from NATSEM or character building events or whatever. The speakers talking about challenges spoke to me so much and although when we put this together at NATSEM naturally we were thinking of successes because that's what our brief had been, inevitably we talked about challenges as well.

Perhaps the first thing I should say is that we are not allowed to leave home at NATSEM unless we bring advertising materials with us and there is a large pile of NATSEM newsletters over there that I have hauled all the way across the oceans and I do not want to take back with me! LAUGHING. Now this is a particularly good issue because there's a lovely picture of Paul on the front! So please, please take them off my hands, give them to your friends, anything, but we do need to take them. And in fact someone just spoke to me at the break about NATSEM and marketing - I do mention that in this talk and here is proof of it. So I'll just get going.

OK I just wanted to say that when we were asked to do this and it fell to my lot I really did talk with a lot of other people at NATSEM about what really were our successes and what would be useful for other people to know about us. So I talked to our senior management and quite a lot of staff and so thanks to them, and once again for having me here.

I thought it might just be worthwhile for a moment just to give you some background about Australia, NATSEM, a little bit about me and something about success. As all of you would know, Australia is a very small place, large geographically but only 22 million people; we do have a federal system of Govt so there's a commonwealth Govt and state Govt; we're based in Canberra which is the place where the commonwealth Govt is based.

Being microsimulation modellers the policy and political framework at any given time is kind of important for our work. Up till about 2 years ago Australia had had a Conservative Govt for about 10 years, about 2 years ago that changed and we now have a Labour Govt,

NATSEM is a self funded research centre that is part of the University of Canberra and we have about 15 full time equivalent researchers there.

One of the other things I thought it worth mentioning, we're talking about successes, what are NATSEM's successes, what can we learn from them? And it made me think well what do we mean by success? And talking to other people at NATSEM I think what we came up with was that for us the key thing about success, and another speaker mentioned it this morning, is this whole sense that one's work is being used in the policy process, that our models are out there and being used and making a difference. So I guess that's the number one. I mean other important things are clearly keeping our head above water financially and producing really quality academic output. Now those 3 things do not always sit very happily together and some of what I'm going to talk about today is really going to focus on some of those challenges.

Just to show you what I'm going to do, I'm going to kind of go through some things that have to do with NATSEM, I won't be talking in detail about the models, very relieved because other people have now talked in deeper detail about tax transfer models and their challenges, we share so many of those challenges but I'll sort of be talking more broadly. So you see some of the topics and at each point I'll sort of be talking about more out of, from all this sort of stuff what's been successful, what have been the challenges and then at the end I'm going to come up with some sort of key things that we really feel have made a difference.

So just to give you some background about NATSEM. It was set up in 1993 and it was the first academic research centre to specialise in microsimulation modelling. And I think many of you would be aware of Ann Harding who is NATSEM's founding director, and I think really her role in getting NATSEM going cannot be

underestimated; she had been working in policy in Australia, did her PhD over here at the LSE and really took microsimulation modelling back to Australia. She has been incredibly successful and I'll talk a little bit more about her as I go through.

So what happened to begin with? We were really set up initially with some core funding from the then Department of Health, Housing and Community Services so NATSEM's always had these strong links to Govt, so even at that point we were an independent research centre but we had Govt members on our advisory board. And STINMOD is our tax transfer model, so like all the ones that were being talked about this morning and I will come back to it during the presentation because it has remained our key product and it's now being maintained for NATSEM by a maintenance contract with the Govt and it's very actively used by a whole range of people, it's really become a key piece of sort of policy analysis in Australia. So we had this 5 years of core funding from the Department of Health, Housing and Community Services, all great, then, so that's right, talking about the success factors, so really that was terrific and I think what really helped get NATSEM established was this, having this visionary leader to really move things forward and it was not an easy task to get NATSEM established.

There's close connections with Govt and the policy process. So Ann herself having come out of Govt, she then employed other people who had come from Govt as well as academics, it was always closely intertwined. Some of these things are easier to replicate in some settings than others, and obviously getting in first is not always straightforward but it has been an advantage of ours that we did do it first.

I meant to say at the beginning something about myself and I forgot. I've been at NATSEM for 5 years, since 2004 and I'm not an economist, I have a background in social work, I've obviously gone right over to the dark side now! LAUGHING We do have a very multi disciplinary team at NATSEM but I am the only social worker, quantitative social worker now.

So just going on with the history of NATSEM, we had that marvellous 5 years of core funding, unfortunately there was then a period of enormous change in the way all sorts of research centres were funded in Australia which I assume reflects international changes as well; there's a whole changing funding environment to much more of an emphasis on short term funding and competitive grants and funding arrangements, and NATSEM was forced to become part of that. There had also been a change of Govt in the meantime since the institution of NATSEM, but it's really more to do with the changed funding environment. So all of a sudden having gone from this marvellous core funding which gave us opportunities to really build that STINMOD model we were suddenly sort of thrown into the wilderness. And a number of things were obviously very challenging, and I've only been at NATSEM since it has been self funded but people who have been there a very long time, speak of these halcyon days prior to self funding. STINMOD, this is our tax transfer model, was really key in making this transfer successful, we continued to get funding for it.

The other thing that really changed as a result of this is we've developed a really, really tight set of controls about budgets and timelines and part of that is an infamous thing called the TRS which is the Time Recording System, all research staff at NATSEM from the director down have to enter all the work they do in 15 minute units into a time recording system so that it's recorded against budgets, and work you do that's not related to a project is recorded as non-chargeable hours, you have to maintain your chargeable hours, all as though we were working for a you know law or big accounting firm, but without the rich rewards! So you can imagine how we all hate the TRS, but, because it's a really powerful discipline, you really know how much time you've put into something, which bits that you've put in, you know what has really blown that budget out.

And also timelines, we just got very focused.

So really when we talk about success factors of self funding, really I think the bottom line (on the slide) is perhaps the main one, so all you can really ever say is so far so good, it continues to be a huge challenge. This very strong emphasis on deliverables though has helped that, this is a great challenge for many of us who come from an academic environment where the whole idea is you keep finding out things until you've found out what you want to find out, you get to something interesting, you think oh I'll explore that a bit further, you really have to find creative ways to do that in this sort of environment. The ongoing STINMOD funding was very helpful, this ongoing, close collaboration with Govt officials really meant we got the work, so we can only self fund by having a combination of Govt grants and grants from other organisations and commissioned research or consultancies and we rely quite a bit on both, but we really need those relationships to get both those things going.

Oh the marketing! As you can see by the newsletters, we really are constantly in the position where we have to kind of get out there, we can't just go to academic conferences, we really need to go to conferences where policy makers are, get in there, let people know what we do, constantly put our hand up and say oh we could model that. And we're very, very big on maintaining our reputation and particularly our reputation as an independent research centre and I will get a bit more to that later.

It's been necessary, as I know from hearing other speakers, it has been necessary for other people too to have an expanding vision, we haven't just been able to do STINMOD, we've had to move on into a whole lot of other sorts of modelling which I'll talk about. And one of the difficulties has been that in order to be self funding we not only have to have people who are good at modelling, good at writing, good at academic output, but also we have to have people who can actually bring the funds in, and a lot of time and energy as any of you who may work in self funding places know, goes into doing that.

Also it has helped enormously that there was already, by the time we had to go to self funding, beginning to be a culture in Govt departments that microsimulation modelling was important and we still have Govt departments that use our models, and so that's been very helpful.

So how did we expand? So we started off, STINMOD was our base model, this is just like a slide of acronyms, I will give a couple of examples so it's a bit more meaningful. DYNAMOD was an early dynamic microsimulation model which was developed after STINMOD. Then we've got this whole sort of side modelling capability in health modelling, and I'll talk a little bit about MediSIM which is the model of the Pharmaceutical Benefits Scheme in Australia, CareMOD is a way of modelling at a spatial level, demand for aged care, we've also moved into diabetes modelling, looking at burden of disease sort of modelling. So very different from the tax transfer model but using not dissimilar skills.

These are just examples, these are not all our models:

ChildMOD is an extension of STINMOD which was looking at child support payments, non residential parents paying money for their children.

HouseMOD for housing and was attached to a spatial microsimulation model which is spatial MSM which Chris just referred to at the end of his talk, about moving into the business of looking at service provision and looking at small areas, we've got very into that in collaboration with Paul as well.

APPSIM is kind of NATSEM's latest thing which is a new dynamic microsimulation model which we're in the 5th year of a 5 year grant to build that.

So we've really expanded our capabilities.

This slide is just an example of STINMOD. STINMOD has a source code version where some small number of users get the source code and can make changes, I can't remember who exactly gets it, but I think it's Treasury and what is now, what's called FAHCSIA Families, Housing, Community Services and Indigenous Affairs, that's sort of the Community and Families Department. Most users though would use this interface version and you can see at the top left hand there it's just you know a range of types of modules within it that you can change and this would just be an example. So here's a tax scale, you could if, all of you will be so familiar with this type of thing, you can change one of those tax thresholds and of course you'd get spat out at the end the winners, the losers and so on and so forth, cost to Govt etc.

This (slide) is just another example of a model, so this is MediSIM. The Pharmaceutical Benefits Scheme in Australia aims to make medicines more affordable, and has a strong redistribution focus so that the less money you have, the bigger benefit you get. And so NATSEM was commissioned by Medicines Australia which is sort of a peak body of pharmaceutical companies in Australia to build this model of the PBS, and you can see there we built it on top of the National Health Survey. We looked at various things but including the distributional impacts. So this is just one very small output from it which shows that there is in fact quite a substantial, redistributional effect of PBS, that big blue chunk on the, on your right shows that much of the benefit from PBS goes to the people at the bottom income quintile. So it's just an example of the sort of stuff, you can see there's 2 quite different models.

So how did we manage to do this? How did we get from STINMOD funded by the Govt to all these other things? Some of the things that really helped was joining up with powerful partners who can provide funding and that includes public/private sector organisations. We have a range of partners, Govt and non Govt, but really building up those networks is also, just like applying for funding is time consuming, building up these networks is also time and energy consuming.

As other people have mentioned, starting small, building up, not trying to create everything at once, but getting something small that works really well and then working on from there.

Cross disciplinary stuff has been quite important, perhaps particularly in the health modelling. So for example at the moment the health team at NATSEM are looking at developing a model of the sort of burden of disease in relation to dementia, you know what, how much money this is going to cost over the long term, and if various intervention strategies were put in place, It's part of a much, much bigger cross disciplinary study, looking at all sorts of issues around dementia and it really helps to embed these microsimulation models in bigger studies that can answer wider questions, because microsimulation as we know can only ever answer some things.

You know plenty of challenges related to this so, which many of you will be familiar with. There's pros and cons of having these powerful partners is you also have powerful steering committees who frequently have things that need to be done or that they would like to be done, extra demands, all sorts of difficulties in making sure that there is not sort of scope creep projects, that we don't set out to do one thing and then because we have so many people to please, we end up doing 20 more things. And of course also getting people together on committees that don't always get along.

And then as well as building up new models, we've also emphasised trying to leverage off the models we've got, so trying to work, more like link them up in some way and sometimes linking up with models outside and STINMOD has often been the link to this and I have a little flow chart, just some of the ways in which we link STINMOD back. This whole area of skill we've developed in spatial microsimulation modelling, we've been able to use that across a range of areas which has been terrific, it's essentially the same kind of technique, and we can sort of apply it to different things. They dynamic microsimulation modelling we're doing for APPSIM will help inform this dementia model. And we do have some collaborations with organisations outside NATSEM in terms of like feeding our model results into macro economic models, a little bit limited but you know potentially exciting.

So this is a very basic little flow chart, you can see STINMOD at the top there, the broken lines sort of represent how we just sort of combine these things together and the hard lines are where we've actually build extensions. So STINMOD has a CHILDMOD extension and other ones, but we're only talking about the CHILDMOD one. If you look then at spatial microsimulation down here it's linked back to STINMOD, so we can take our spatial microsimulation model, put STINMOD sort of on to it and then examine the effects of say a family tax benefit change at a small area level. And then on, we've used spatial MSM to build more specific spatial models including HOUSEMOD which focuses on housing policy and CAREMOD which focuses on demand for aged care. There's a similar kind of thing going on at the other side with the dynamic modelling.

Just an example of CHILDMOD, I'm just looking at the time, I might skip over my CHILDMOD example, I think I'm very happy to talk about it in questions if people are interested.

So when we extend these models by putting an extra thing on, I mean how's that kind of helped or how have we managed it? One of the key things about it has been being involved in agenda management and agenda setting, that we kind of have felt the need, it's kind of part of this marketing thing, to be engaged in the policy process in some way, be on committees, be at these conferences, be able to put up our hands and say that's the sort of model we could do, or know what the issues are and be able to raise them with people who could possibly fund us to build these models. And of course apart from the fact of the funding, it's also terrific because we end up building models that people will use, which is kind of our whole purpose.

One of the difficulties though of these sort of extensions is we do need to have sufficient flexibility, we need to be able to be able to drop some other things sometimes and in the you know few months that we may be given to do some little extra thing, not always easy.

And of course one of the difficulties is we build these new models or these extensions and as has already been discussed this morning, they all need to be maintained and sometimes there's challenges of getting that done and getting that funded.

So trying to get these synergies working; one of the things that's really helped is this acceptance of STINMOD, it's really a brand that many, many policy makers in Australia kind of accept, so that when we maybe put some proposal forward saying we're going to do this fancy new bit of modelling and then we're going to use STINMOD to you know model some policy change, we scarcely have to sell it, they all sort of know what STINMOD is, it's really useful, it's very highly regarded, so that's been very handy for us.

Sometimes when we're joining up with other organisations IP issues do arise, we're quite sensitive about our IP and other organisations are just as sensitive about theirs, so there are some challenges, but usually you know they're overcomeable.

Obviously it's not just about building models but about using them for public policy applications; we do a lot of this work ourselves, some people outside the organisation also use models like STINMOD to do their own work, but we actually do a lot of public policy application inside, huge numbers of things, STINMOD we've looked at those sorts of issues, I won't go into those. I'll just give you an example of some STINMOD ones. So for example at the end of the 1990s the Govt proposed that we were going to introduce a Goods and Services Tax, like the VAT which would lead to a whole raft of changes in tax policy and which was the subject of enormous amount of debate, and NATSEM was funded to look at what the possible redistributive impacts of the GST would be and we used STINMOD to do that and in fact there was an adjustment to how low income people would be compensated for the introduction of the GST as a result of NATSEM's modelling.

And then another example of our public policy application, there was also a key Govt debate about welfare to work, so the Govt was trying to get single mothers back into the workforce when their youngest child turned 6, with quite strong penalties for not going into work for a minimum of hours per week. And there was a group of welfare groups that commissioned NATSEM to do some research about the impacts of this. And in fact there was a major amount of public debate about the whole issue but also about NATSEM's results and a kind of minor victory for the usefulness of microsimulation modelling I suppose was the age of the child was raised after some of this debate.

So we're constantly needing to keep working on this but some of the things that have helped are having these close links with policy makers and an understanding of what the policy process is all about, how it works, how microsimulation modelling can answer questions that are important to policy makers. We do research for everybody, so we do work for little community groups who sort of pass the hat around to come up with enough money and we do work for very large Govt departments and for big, private organisations. We also do quite a lot, when we can get them together, something called an ARC linkage grant which is an Australian Research Council grant where researchers get together with industry partners, industry partners match the ARC funding. Apart from the fact it boosts the funding, it really also maintains those links we have with people who might be using our models, so it's got kind of dual benefits. The AMP is a very large Australian insurance company that we've long had a series of reports with. I think we keep getting this work or the impression from people at NATSEM is because we have a reputation for impartiality, NATSEM is very big on being independent. We also don't just do microsimulation, we do a whole lot of other microdata analysis.

So to do all this, and I was interested to hear other speakers talk about this, to do all this of course we've got to have the staff, and staffing is a continual problem, people, just as Chris was talking about, people get trained up, they're just doing so well and then they inevitably leave, and quite often they leave to go to places like the Treasury who are also doing microsimulation modelling, although it's actually slowed down a bit lately. And I guess there's no point whingeing about it, it's always going to be a problem. We thought about the things that help us keep people, (there's not a huge turnover) and we do have a true collegiate environment, so for those of you who have come from an academic setting where you could really be in your office for a week, dead, and no one would know because no one really turns up (LAUGHING), NATSEM is really not like that and of course that has its challenges too because people do notice if you're not there by you know say 10 o'clock and they think oh I wonder what's happened to Justine, and of course you're not filling in your TRS! LAUGHING So it has its downsides, it's a little bit like social capital, you know, it's a good thing but it also has its down side, however there is a really true collegiate environment, there's a sense we're all working as teams. We do work in small teams and it really does help.

One of the other things that's helped keep staff, when I asked Ann what do you think really keeps people here, she said Jeannie. Now Jeannie is actually currently our acting director because we're searching for a new director, Ann has now gone into a sort of research role at NATSEM which is great for her, and Jeannie is our

deputy director, she is not an academic, she is not in that competitive grab for grants, authorship of journal articles or whatever, she comes from a senior public service job, she had been a major user of microsimulation models in that job, and she really, really offers a lot of support to staff, mentoring, thinking about people's careers, I think many of us will identify having that sort of person in the organisation is key. And this whole issue of being multi disciplinary too I think people enjoy.

So this is the last slide, you may be pleased to hear. So if we had to distil, what is it that's really helped NATSEM? That visionary leader, Ann has been fantastic - she is still staying at NATSEM will continue to help us and we hope to get another new visionary leader.

This willingness to move on, you know to keep going, we've just had to - it makes the work very satisfying and also keeps our head above water.

Involvement with the agenda setting really keeps us getting that public policy application work and new modelling work.

I don't need to go through all those because I've mentioned them.

The public and media interest in distributional analysis has been really important, people want to know who the winners and losers are.

And continuing challenges, well really this balance between trying to get academic output which is key if we're going to get grants, you can't get the grants unless you've got the journal articles, and a track record in getting grants, and trying to get that done at the same time as trying to deliver models and do brief public policy applications for paying clients, it's very difficult, we continue to do it successfully but it never gets any easier.

And obviously ongoing issues around funding and staffing.

I think that's it.

Oh there's a huge number of references, you could go on our website, if there is anything you would like to pursue, there's a lot of material on our website, I've just put some selected ones in there.

So thank you. Any questions?

QUESTIONS

Questioner 1 – Yeah I like the way they call it soft money when it's hard money.

Justine McNamara – Yeah! Exactly right, it's a misnomer of the worst sort because it is back-breakingly hard as you know to get it...

Questioner 1 – The question for you in a way, those people you train up within NATSEM and then they move on, to what extent are they actually now your current and future customers?

Justine McNamara – I think that is an advantage, I'll be interested to hear what Chris says. So those people that do move on are to some extent our future customers; they are people out there in the public service who understand what microsimulation modelling is. Most of them have moved on to Treasury where they are doing modelling themselves, although they are still maintaining STINMOD. So to a certain extent yes, to a certain extent no.

Questioner 2 – So have you instituted any training, like PhD's, Treasury funds or anything like that ...?

Justine McNamara – We're constantly in the process of trying to get this going with the university or with the Treasury. We have done some, a while ago now we did a 3 day course for people just to come along and you know learn how to use STINMOD, learn what microsimulation modelling was about. My impression was, I don't know that we got a peak of you know kind of work out of it afterwards, it's certainly good to have people trained. The other thing is to try and maybe think about setting up some sort of units in perhaps an existing course at the

university where we could teach it on a more sort of formal basis. But yeah we are constantly thinking about ways of training people up because in essence at the moment most people are just trained in house, so trying to identify people who are going to be good modellers and are going to be able to, as Chris said, kind of stick with it is a real challenge. I don't know if you have thoughts Chris?

Chris Drane – Yes, it's quite often the same with us in that a lot of people stay within DWP, quite often will go on to other jobs actually using models. Sometimes if we're really lucky they come back and work for us again later on.

Justine McNamara – That could be great yes, we're always trying to entice people back.

Chris Drane – You know if you get people who go off and then get more experienced perhaps in policy environment, they come back, you've got people that, who sort of combine the knowledge of the policy environment and the modelling ?

Justine McNamara – I think that is an advantage, so many of ours are going into rather like a sort of modelling area in particular, I think if you can get some more policy experience and come back, that's great because it maintains those links.

Questioner 3 – I think it's just the same in the UK(?29.08) as well, it's annoying when people clear out but particularly given the way we're organised, where we're a fairly small unit in the Treasury and we tend to find knowledge of what we do and what we can do is maybe a bit patchy and some areas know us very well ?? policy agenda over recent years, whereas other people might have forgotten about us(?)

Questioner 4 – We have that too, people do (29.30) ????? advising ministers ? models ??? that's fine ???

Questioner 5 – Are you working, so now in terms of in conjunction with University of Canberra?

Justine McNamara – Yes.

Questioner 5 – Do you intend to indoctrinate under grads into microsimulation?

Justine McNamara – Yes, we go over there and we give talks and give guest lectures, yes so we do, we do. University of Canberra has a relatively small economics programme so there's probably a fairly limited group of under graduates who are ever going to be interested, but some of our most successful, long staying, fantastic staff members have actually come from there - they were good students over there, they were doing maybe their Honours, they came over as casual staff members and they've developed from there. So that has been a successful model. And we do some, quite a lot of work with you know staff members over at the university, they join us on projects, so it's all a way of trying to have a presence in the university, partly because we would like to be able to recruit more students. Good question.

Questioner 6 – It's a comment really, I think you've made a big deal about your independence and impartiality, or rather given us an impression of independence and impartiality, but the way you describe you fund that service is completely different from the way that the IFS funds itself. For example you talked about your close working relationship with Govts and polite to receive all that but I don't take money from them! And you've talked about the way you accept money from private organisations, even ? ones, and these are things which I just think would be awful and totally compromising our impartiality, so I was intrigued by that. But I think it reminds me that ...

Justine McNamara – That is a very interesting point.

Questioner 6 - ... there is no one method of ensuring that you get to be impartial, and maybe it's all due to the fact that you had Ann as your figurehead and people trust her.

Justine McNamara – I think that is such an interesting point. I guess that part of it is that people, everybody knows we do in fact take money from everybody and that we always emphasise to clients that the findings will be the findings and you know they will have to live with them and indeed that is the case. I think it's a very good point but yes we take money from all sorts of organisations, as I guess many academics now do in all sorts of settings, from all sorts of funding sources. Yeah. It's worked for us, but certainly people would widely recognise

NATSEM as being impartial and I think part of it is Ann's reputation, part of it is the perception that the research is high quality, and part of it is this idea that we do do work for anyone, that we're not picking and choosing who we work for. So for example if the Australian Council of Social Services, it's major peak body for Social Services in Australia, a non Govt organisation, gets us to do some work, one of their purposes in getting us to do some work is that it will have more clout say with Govt because it will be seen not as being Australian Council of Social Services pushing their barrow, but that NATSEM's work will provide some independent research behind it. I'll be interested to find out how the IFS is funded, I'll have to find out!

END OF RECORDING