

**Seminar 1: 'Scaling up; scaling down'**

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**EUROMOD: the flexibility to "add new countries"**

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**[EDITED TRANSCRIPT]**

**Introduction**

Well first of all congratulations to Paul for securing the support from the ESRC and the other body I guess for this seminar, it's very useful and welcome. And thank you for asking me to be the first speaker, I guess that's an accident but I'll take as much pleasure out of it as I like!

I'm here to talk about EUROMOD and I'm not quite sticking to the title I was given, what I'm talking about is its flexibility to add new countries, the title was more in terms of add new policy systems, but the issue is also about adding data, maybe in a different format and different content for new countries. And really the talk is about flexibility in general and how we've addressed that in EUROMOD. And here on this slide you can see that where we've got to is a product of lots of people's work, so the four people named there as well as myself, and Francesco is here and I think has the model on his laptop if anybody wants to have a look at it sort of in a hands on in the break, I'm not going to show you the model live because there's not enough time to take you through all of that, I'm going to show you some slides instead.

I'm going to very briefly gallop through what EUROMOD is and what it's for and give you some sense of context and a bit of history. The reason for that is that the model is currently in transition and one of the issues that I will raise is about how do you deal with transitions of models when you've got an old version and a new version and you want to keep on using it? I'm then going to give you a sort of an outline of the model structure and also give you some idea of the process of model construction and maintenance of who does what, and then give you a bit more about the way the model looks and some of the components including the usual sort of items, but perhaps presented in a rather different way, interface the functions that the model uses and the way it handles data and what sort of documentation we provide. And finally I'll finish with the challenges as I see them that we face, particularly in relation to flexibility.

So first of all what is EUROMOD and what's it for? It's a multi country tax benefit model for the European Union, and my understanding is that it's unique in the sense that it's a many country model, if that's not right I'd be grateful if somebody would tell me because I'll stop saying it then. National models like this exist in most of the EU 15 which is the EU we started with when we started working with it, and in some of the new member states, and on the whole EUROMOD is as detailed as most national models but not as all of them, and on the whole I would recommend that people go to national modes for national analysis, analysis for one country where there are not complex changes or sort of new policies that they want to look at and reproduce. But I would recommend the use of EUROMOD for national analysis where this does involve complex changes that the national models may not be set up to deal with easily or of course with comparative multi country analysis, or with analysis that needs to be done at the level of the EU, not at the national level.

The model is mainly built to do cross national comparisons and the idea is that to do that one needs to produce equivalent outputs maybe with different inputs and it may be needing different inputs because, in terms of data, because the information requirements of the different tax benefit systems are different. And the way we deal with comparability is providing a huge range of options to maximise flexibility and by, one of the things it allows us to do is to define variables for cross national analysis that improve comparability or equivalence of cross countries as against variables that one might take straight from the data. So the examples I've given here are calculations of net social benefits, so if one's comparing the amount, the value of social benefits across countries one ought to take account of the fact that in some countries those benefits are taxed and in others they're not and of course using a tax benefit model you can do that.

Another example is if one wants to compare the amount of state support for children in cash, one doesn't want to just look at family benefits or child benefits across countries, one wants to look at all the payments including tax concessions that are made available to households by virtue of the presence of children, and again you can use the microsimulation

framework for that. And that's important in a comparative context because in some countries all of that support is channelled through things that are labelled for children but in other countries they're not and it's not a sort of fair comparison to simply pick up the ones that are labelled for children. And also indicators of work incentives is another area in which one can't actually do that without a microsimulation model but if you have one that covers all countries in a comparable way then the calculations that you're doing can be compared.

The other, another area is to look at the effects of common reforms across countries, the different effects upon the reforms across countries and an example here might be what if we were interested in designing an EU minimum level of social protection for the recession, I mean that's quite a big what if, you know nobody's actually said that that's what we should do, although I do know that there are people within the European Commission who are interested in having that done, and something like EUROMOD is what you would need to at least make a start at trying to answer that question.

The other thing it's for is what I've called policy learning across countries, I mean that's a kind of European Commission piece of lingo and it's about doing thought experiments about you know if there was a country which has a good, a seemingly successful set of policies for a particular purpose then what would the effect of those policies be in some other country? So it's a framework in which to have if you like an informed dialogue but to provide empirical estimates to base those discussions around, it's not saying well you know in Britain we should have the same support for lone parents as they have in Sweden shouldn't we? It's saying well you know what if we did? What would the issues be? How is Sweden different from the UK? It's about eliminating those issues.

And EUROMOD is available for any non commercial research use by academics and by people in Govt or international organisations, it's available free of charge but you have to get your own permission to access the input data and you need to comply with a few conditions that we impose such as actually acknowledging the use of EUROMOD and so on in the normal way.

EUROMOD was originally built for the EU 15 as I said because of the difficulties in making national models comparable, we tried to do that with a rather small set of countries and found it really difficult because there were national assumptions hardwired into the models. This may no longer be true in the case of the sort of the UK tax benefit models, but for example something like the definition of a dependent child is something that is quite easy to think well let's just you know, we'll just hardwire that into the model because that's not going to change, whereas of course the definition of a dependent child is in fact different across all of the EU 27 countries I think and of course in some cases the different benefits and different components for children use different definitions of dependent child, that's just an example.

So we decided to build EUROMOD, we were funded by a series of European Commission projects to do so. It was first constructed for fifteen countries in a very fast way because we had a project that needed, said we would do that, and in a kind of learning by doing way because there was no other model like it to borrow from or nobody with expertise to talk to. And the lessons learned from that first version in terms of the flexibility, ease of use trade off in terms of comparability of cross countries, in terms of ease of maintenance, in terms of transparency and so on fed into a new design that we applied to four new member states in a product that we've recently finished, again it was funded by the European Commission, RIDS stands for Research Infrastructures Design Study. The four new members that we now have in the model are Poland, Hungary, Estonia and Slovenia. And this new design provides a common framework, a single framework for doing equivalent things across countries, rather than the first version which was a little bit like fifteen national models side by side, I mean it wasn't that but it had characteristics like that.

So now what we have is a unified design in the sense that each part of the model looks the same for transparency and we have a sort of effort to kind of minimise redundancy or duplication. If you think about building up a model for fifteen countries or twenty seven countries in parallel with different people working on different countries there's a lot of scope for doing the same thing in different ways. And our new design is trying to kind of, not rule that out but to minimise that so that what we end up with is something that is unified across the countries. So there's a common structure for each country and there are building blocks that we use in common across all of them. And there's also what I've called a disciplined input data specification. Again you can imagine if you're building up a model for a single country you'd derive the variables and like name them in a way that suits you for that particular country, if you've done that for twenty seven countries, how on earth do you swap a policy from one country to another if the variables are all named in different ways and derived in different ways? So we've designed a way of dealing with that.

But because of the flexibility the model is enormously complex and it requires good documentation including validation of outputs so that the users are satisfied that they're dealing with a sort of high quality model. And the complexity means that users need training of some kind or another and then support to some extent. It also means that we specialist developers, people who are practised and who understand the guidelines and so on that we've set up, and we still need national expertise. So the project that we're running now which is ongoing and just started funded by the European Commission, but this time directly by DG Employment, that is involving teams from all twenty seven countries and ourselves as the model developers, actually twenty six because we obviously do the UK ourselves.

Because we've built this flexible, relatively transparent thing we've found that the framework that we've built can be used by other countries to build their own tax benefit models and this has been done and is a model for South Africa with really very little input from us, a little bit of support and that's all, using the framework that we've developed. And there's also a new model called LATINMOD which is in the process of being constructed for five Latin American countries.

Just to quickly run you through the current status, so the old version of the model if you like covers direct taxes and cash benefits only, so no indirect taxes or non cash benefits and most of the contributory benefits and pensions which of course are particularly important in many of the European Union countries are not fully simulated because we don't have data on contribution histories. In the standard model there are just static calculations, benefit take up is assumed to be 100% and there's assumed to be no tax evasion, I mean there are uses of the model where all of those conditions have been changed, where EUROMOD has been linked to other sorts of model to take those issues on board.

And what we call the EU 19 model, the EU 15 plus those four new member states, the current state of play as far as policy years goes is as set out in this table, so there are some countries that are covering 2005 policies as the latest year, some with 2003 as the latest year and some with 2001 as the latest year. And the underlying data either matches the policy year or precedes it by a few years in most cases, and the data come from the various surveys and indeed registered data for some of the Nordic countries and the UK would use a choice of the FRS or other old, if that's still called the FES of 2001 family expenditure survey.

Right, now our new project will extend EUROMOD to the EU 27, it will re-base it using the EUROSTAT version of the EU SILK data, if anybody here doesn't know what that is I can explain, in fact if I'm saying anything that anybody doesn't know what I'm talking about please shout and I'll explain it rather than rattling on.

Male – I don't know what EU SILK is.

It stands for European Union Statistics on Income and Living Conditions and it's the replacement for the ECHP data that EUROSTAT used to run itself, it's now data that's contributed by the member states, in the UK it's based on, for Great Britain it's based on the GHS, in many countries it's a specially conducted survey and we can talk at length about the problems with it but, and in fact I'm not going to return to this in this because it's not really related to what I'm talking about. But there are disadvantages of using a single data set as the database and some less obvious disadvantages which I won't go into.

The idea is to update the policies as you saw, it's pretty out of date, to update the policies to the EU SILK data year but also a very recent year, so to pull it forward to the most recent year that's possible to do for countries, some of which don't know their tax systems until the end of the tax year they're in. We're also going to write the EU 15 using the revised framework. And the other aims are to encourage the use of EUROMOD for policy relevant research by all sorts of people to establish a regular programme of updating both data and policies, to transfer as much of the maintenance as possible to the national teams so that there's a kind of shared workload and to train more people to use the model. At the same time and not part of this project and in various, covered by various sort of arrangements, we're also working on linking in indirect tax simulations, linking in labour supply models including value estimates of non cash incomes, modelling benefit take up on tax evasion and facilitating new spin off models for non EU countries.

But what are the key requirements for this flexibility across countries and trying to build something where you can add a new country or a new dreamt up policy relatively easily? First of all, all the country's specific features need to be parameterised outside the model and not in the code and the country's specific features relate not just to the details of the tax and benefits system, but also to the information about the input data. Secondly all the functions and variable definitions and so on should work across countries, so it should work across all the countries that are currently in the

model and if you're building it for twenty seven countries then it's quite likely to work for other cases too. But what we need is a sort of set of building blocks or functions or a common language that will work in all cases. The other key requirement is transparency, and related to that a kind of getting started mode for working, given how complicated and big the whole thing has become. So a getting started mode both for developers and for model users and it's most obvious in the case for model users but if this is a long term complicated project then the idea is that you know model developers will come and go and it needs to be possible for new people to come in and start being effective and understanding what's going on pretty quickly.

So I'm going to say a little bit about model structure. This diagram looks like a lot of diagrams like this for tax benefit models and I'll just explain a little bit about the special features rather than going into the details which I expect most of you are familiar with, the main inputs are the original data from, microdata from a survey or something like that and information about the policy rules. And it's the stuff in the kind of grey box that is EUROMOD and it's the stuff in the yellow box that uses, or indeed developers have contact with in terms of the model as well as of course the original data. The original data is transformed into the data that needs, we can't work off the original surveys partly because in many countries there's a lot of imputation that needs to be done before we can use it, for example in many EU countries we only have net incomes and we have to do a sort of net/gross imputation which is not straightforward at all. The code reads the data obviously but parameters offer the user choices about which country, which data given in some countries there's a choice which currency to use which is an issue if we have countries that are joining the Euro where the data may be collected in the currency but the policies are defined in the Euro. All the policy rules are determined by parameters, so the user has access, parameters and functions, the user has access to those and the code which is essentially a set of common functions is compiled C++ which is rarely changed and simply never accessed by the user, it never needs to be accessed by the user. There are some tools where we provide a sort of Excel tool to read off the output data to produce some kind of basic analysis, but the main way we expect users to do their analysis is just simply specify what output data they need in micro terms and then to do their own thing with whatever they like to use, data or whatever.

The chart also shows a little bit about division of labour between the national teams and the central core modelling team, so the national teams provide information about the policy rules in detail using whatever the most, the sort of easiest way for them to provide that information, it may be a coded information or it may be long essays about the policy rules, and they also are responsible for transforming the original data into the model input data, and not shown on here they're responsible for validating the output against national administrative data or whatever, otherwise it's the core modelling team that does the work.

Now I'm going to say a fair amount more about these parameters. So information about the input data and the tax benefits system is all stored in an Excel file using one file for each country and using different sheets as shown here in this list, so it's kind of trying to divide up the information into different types of things. So, and these names are the names that we've been calling things for a long time and can't change, some of them need a bit of explaining. There's a control file which specifies the choice of data and general settings. The policy spine specifies which policies are going to be simulated and the order of simulation, I mean that's important because for example in some, all countries that we've dealt with so far have an income tax but in some cases the income tax needs to be quite low down in terms of the spine, so come a long time after the benefit calculations because the benefits are taxable, but in other countries benefits may be assessed on after tax income in which case the tax point on the spine needs to come before the benefit calculations. And indeed in specifying reforms one might want to change the order of the items. So this is a sort of central driver of the model. Then there are sheets describing the policies, the rules of the tax and benefit instruments, decomposed into elements. I'll show you an example in a minute. And something we call tax units which are essentially definitions of collections of people so they're assessment units generally not just for tax but they may also be units for analysis, we may want to not analyse the output level of the household, we may want to do it at some other level that we can't anticipate, we may want to just look at couple or something. And then something we call the income lists which are definitions of income concepts, again perhaps for an income test in a means tested benefit for the tax base or for output where one's interested in benefits grouped in particular ways. And then there are updating factors which simply update the input data to the system year. Now as well as these sheets for each country there's a common file which contains and defines all the variables used in the model for all countries and it's sort of huge and I can show you that if you're interested in seeing how huge it is.

Now the user interface which we call the operating system because it performs that function for the model as well, is written in, it uses Excel, it simply uses Excel because everybody has Excel and is familiar with Excel and it holds the

parameters and the information in a convenient and organised form. The model itself doesn't use Excel, what happens when you run the model is the Excel files are converted into text files and the model reads those. People often go away from presentations about EUROMOD thinking that we do the calculations in Excel but we couldn't because Excel has limits on the number of rows and so on and there's just no way it's powerful enough. So we simply do it this way as a cheap and easy piece of software that everybody has on their laptop or their computer.

These things in blue are links to other sheets or links to the country files, so for example if one was to click on, there's no point in moving this around and clicking, but if one was to click on Austria one would then go into the Austrian set of Excel sheets. You'll see that the countries where we actually have a working version of the model, the nineteen countries up to Slovenia are sort of in full colour and the countries we're working on, they're not yet in model, sort of they're waiting. And we also have a country called Simple Land which is as imagined, it's a very simple country, has made up data and it has a child benefit and an income tax of the simplest sort, and it's there for training and also for people who want to start thinking about building a new country, they have this framework to start making the income tax a bit more complicated or the child benefit more complicated or whatever, it's a sort of, it's a getting started point in the model.

These things on the left hand side are also links, they are what they say they are really, I mean there are a lot of tools that are built within Excel to make things easy for the user to do the same thing across all the countries and in fact this version of the front page has been updated and there are now two new buttons, one that says 'add country' and the other one that says 'remove country'. So if you hit 'add country' it obviously doesn't include all the tax benefit rules because you haven't said which country and what you want, but it provides you with a template to fill in.

We've got new style and old style and that's because at the moment we're trying to handle the old version of the model for the EU 15 and the new version of the model for the four new member states within the same framework, but at some stage we're going to have to split off because it's basically using a different executable, so you can either use the old style or the new style and this is something I'll come back to about transition.

If one was to click on 'run', 'run EUROMOD' one would come to a sheet like this and here we're in the new style so we only have the four new member states plus Simple Land and here you can see I've selected Estonia as the country I'm interested in or I could have selected them all or any of them and eventually there'll be a whole list of countries, and for Estonia there's only one data set at the moment, so it's giving me one data set and policy system combination and if I was happy with that I would then click on 'run' and it would run. If I'd specified a reform it would also give me the reform or several reforms, it would also give me those to choose as well. If I click on 'run' it then saves everything as text files and off it goes and runs.

I'm going to show you a bit more about the way these sheets look. All the sheets have the same format, they all look like this, this is in the new version of the model, in the old version of the model they look a bit different, more colourful, we're still debating the shade of blue. And this is an example of the control sheet for Estonia and it's showing this one data set and this is basically where the issues about the data are defined and I'm not going to go into the details here, but it's a way of showing you the sort of layout. So the grey rows are the functions if you like and if you look at where we're using the Excel grouping functions so one can simply look at a list of functions that happen to be used here and then one can break open and see what's inside if one wants to. It could, that could be very important when the sheet is very long which it isn't in this case. So in column 'a' and 'b' there are links to other places, column 'c' includes the function names and then the parameter names below it, and function 'f' here includes the parameter values for the Estonian 2005 system. And if we had another system, so a reform, there would be another column next to it.

Now I mentioned the policy spine, the order of policies and again you can see it's got the same sort of format with the columns being used in the same way. And here it's showing the points on the spine, so the policy elements, starting with the assessment of the, the income assessment units, so the definition of all the what we call tax units and also the income concept definitions that are going to be used later on and the data updating if that needs to be done. And then the policies in the order in which they are simulated and you can see at one of these that's SIGEE, that's employer social insurance contributions for Estonia, that's broken out and in this case the elements underneath the function are simply telling you the output variables from that policy that are then available for the later policies to use.

You can see in column 'f' you can switch elements on and off and that's, you may want you know alternative versions of the same thing or you may want to have something coded for special purposes that is normally switched off. I think, oh

one thing to notice, I mean this is you know a screen grab from Excel so you can look along the bottom and see all these other tabs which carry on to the right a long way, and the whole of the Estonian part of the model there will be equivalent files for each country.

I'm going to say a bit more about these functions now. Now we simulate policies we think across all twenty seven countries and we're pretty sure across most countries that have a, this sort of tax and benefits system, using just six functions, so these are these six building blocks for policies. I won't go through them here, they're all as you can see quite sort of general, there's an eligibility function, so something that works out conditions if you like, there's a calculator function, there's a special function for the most common tax schedules, there's a function that allocates amounts of income within the members of an assessment unit, and then there are a couple of general sort of arithmetic functions, one that simply calculates the minimum or maximum and the other one that is a general arithmetic calculator. So you can see these are all quite general things and they're not particularly about you know tax benefit nerdy detail, and each of them has a lot of different arguments that may be, some of which are compulsory, but many different optional arguments. And these are documented in a manual, and that's the kind of Bible for both the developers and the users, but it's not a huge manual, it's very beautiful and lovely and highly recommended bed time reading! Actually it's a whole lot better than many manuals. And that's really the, that's something I can't give you more than a hint about.

Here's a real example, this is a part of the income tax in Estonia in 2005, I'm not going to go through it but you can see the sort of, sort of what it looks like, so the grey rows are the names of the functions, so they're each one of the ones I've just shown you, and within that there are function and well parameter names in column 'c' and in column 'f' there are the parameter values or formulae that are calculated. And then in blue to the right there are comments that are, some of which are automatically generated and some of which need to be manually generated. I'm not going to go into any detail at all to explain to you this, I've got a simple example that I can show you but just, and I'm not sure how well you can see this but I'll just point out that, oh where's it gone, here I L Pensions, that's one of these called an income list and that's simply adding up all the different bits and bobs that go to make up the Estonian pension which is necessary to calculate this particular allowance for pensions in the Estonian tax system. So that's where these income lists, it's one of the ways in which these income lists get used. And similarly tax unit which is actually a compulsory parameter in each of the functions, this is the tax unit which is defined elsewhere in a sheet that looks like that, I T married E E, I guess, I don't know enough about the Estonian system, but I guess that's the tax, the actual married tax unit in Estonia, and so the pension allowance is calculated for the married couple.

To give you a simple example, this is a simple one, child benefit and that's made up of two functions, first of all there's the calculation of the eligibility and the eligibility condition is that DAG is less than three, DAG is one of these variable names that as I mentioned before and I'll explain a little bit more in a minute, these common variable names across countries where we've, so DAG, the 'D' stands for, it's a demographic variable and AG means it's age. So there must be somebody under the age of three within this assessment unit defined as S BEND family S L, S L stands for simple line. So within the tax unit for now we've defined this family and actually I don't know how it's defined, it could be all family units in the kind of UK sense or it could be limited to families with children, you'd need to look that up or one would need to look that up to understand how this is. But in this case the family has to have a child under three and in the calculation of the actual payment it means that who must be elig means that at least one person must correspond to the eligibility condition and then the family, the S BEND family S L received 100 Euros a month. And that value is put into the output variable, again this is using our standard naming convention so BCHS, 'B' is benefit, 'CH' is child benefit, '\_s' means it's been simulated. So although these are not intuitive names it's a kind of, it's a language one can very quickly learn what is contained within the variable.

Now suppose you wanted to, OK, suppose you wanted to carry out a reform, what we would do is press an 'add system' button and that would provide us with a new column everywhere in the whole of the Simple Land file and having, and it would copy over the base line and we could then change it. And here what we have is the eligibility condition switched off, the eligi, in the first function, the second function the condition is no longer applicable and we've changed the payment from 100 to 50 and then the model would give 50 to all families of this definition, rather than 100 to families with children under 3. And the idea here is to show you that you can add a system by editing the old system to create reforms and you can also copy and edit groups of rows to create new policies or to swap policies across countries, so you can take this Simple Land child benefit and implement it in the UK and then edit it if you wanted to. And you can also use the 'add country' tool to copy and then copy edit policies for a new country, so you can say well in this country, say Latvia there are

actually you know, the tax system is quite like that in Lithuania, I don't know whether it is or not but, and so we'll start with the Lithuanian tax system and adapt it, rather than starting with a blank sheet.

So just quickly on this input and output naming convention, we follow a standardised approach using a list of acronyms that when we put them together in a particular order, build a variable name. I don't think I've got time to go through what these actual acronyms are but you can see they're things like labour market variables, demographic variables, primary income, benefits and so on. And the second layer consists of two characters that identify specific information for the particular variable, and you can use more than one acronym, so you can have really long variable names if you want to. And as I said before if the variable ends with an '\_' then it's assimilated by, but if not then it's a variable that comes from the data. And this, if you can see it is an example just pulled out of the variable list and just showing what happens for three countries, and just focusing on the child benefits. And in fact this is just so far building for a five countries, we have Italy here and the four new member states and I'm just showing you Estonia and Hungary. And essentially on the column headed 'variable name' those are the variable names that are used within the model, those labels are generated automatically because the acronyms are defined in that way. And what that means is that for all sorts of countries with all sorts of child benefit types and with all sorts of developers defining things in different ways, if they follow this when we order the file and we ask for you know benefit then child, we get everything that could possibly be a child benefit grouped together, so we can then look and see what we want when we're trying to implement a reform to child benefits in the same way across countries for example. Otherwise we have literally thousands of variables without knowing which one might be a child benefit, even if they're all labelled things like Finnish child benefit number 6, we don't actually know what sort of child benefit it is, but this allows us to at least have a clear idea about the variations. And as you can see each one of these variables is only used once so far in the three countries that I've put up here, but by the time you have twenty seven there will be some overlap. So it allows for a high level of country specificity, we're not muddling up things that are actually different by creating harmonised variables but we can group them in ways that are sensible relatively easily.

The final component I was going to talk about was documentation, I wasn't going to talk about it, just list it and there are user guides, developer guides, reports on each country, research applications, and where those research applications have made kind of complicated the use of EUROMOD we ask authors to write recipes, step by step instructions for how to replicate that for other people. And this is all available on our website.

So the final slide is about the challenges that we face doing this multi country thing. I mean the first one I've not addressed but it's *the* big challenge which is the input data, access to it, the quality of it, the comparability across country of it, and the suitability of it for tax benefit modelling, and I can talk at length to any of you about all of those things but it's not the subject of this talk.

The second challenge is how to increase the number of users. A huge amount of effort has gone into this model and will continue to go into it. There's no way that the people developing it, including the national teams can possibly do justice to its potential. So it would be totally wasteful not to make it generally available and it is generally available but there's a kind of learning curve for learning it, so we want to make sure that people who can make use of it are able to and so people know about it.

The key thing in relation to today's topic is about managing the model revisions and transitions and in particular we have an old version of the model and a growing new version of the model, when we discover bugs or errors do we correct the old version or not? That's one problem, relatively minor problem. The other problem is we have users using the old model who may want to transport their old stuff, if you like their columns and rows that they've developed, particularly their columns, their reforms, and put them into the new model and how can we, how can we, at the moment that's pretty hard, there's a lot of fiddling around that people have to do. And one of the things we're trying to do with this new version of the model is actually to really make that, it will never be a button push job, but to make the manual work involved in that much less.

Spin off models are great, they're really exciting, it's fantastic to go to South Africa and to attend a high level Govt meeting and find they've used what they call SA MOD which is the South African version of EUROMOD without us, I mean we've spent about four days with them, and to find them using it, it is the most exciting thing I've ever done. But there are serious intellectual property issues about letting people do this and it's great with the South Africans doing it, but what if they give it to a load of other African countries, even greater, but somehow we need the fact that we've contributed to

this to be acknowledged because if we're going to carry on and make this process even easier we need funding and so on, if they just do it without acknowledging it in a way that we can invoke, then there's a problem.

And finally maintaining the model developer team, you saw there were four names on that list, we need about another four and so we're actually recruiting, so this is an advert! In case there's anyone here who is interested in working or anyone who knows anyone, or anyone who is in a kind of network that might not be part of this community. If you get, just point people to the advertised jobs or just e-mail me for more information, that would be great. I'm sure you're all aware, those of you who sort of manage models, I'm sure you're all aware there's a real, we're a special group of people and there are not that many of us and it would be great to increase the numbers. Thanks. CLAPPING.

## QUESTIONS

*Paul Williamson* – Are there any very specific questions about EUROMOD that you want to ask now or questions we might defer about the broader issues for our later discussions? Are there any specific questions?

*Male question* – In terms of the model, do you do anything on say employers' contributions to like national insurance?

*Holly Sutherland* – Yes, yes, and also in the countries where it's relevant we include the contributions made, effectively made by Govt on behalf of people who out of the labour force.

*Male question* - women are not?

*Holly Sutherland* – Yeah, although in other countries it plays out slightly differently but that would be, we don't do that in the UK, but in some countries it's important to do that for the, to build up a picture of the financing side.

*Male question* – Can I just ask about the way the population's represented in your model, is the entire population of Estonia in there?

*Holly Sutherland* – We're using household survey data, so we're, and currently for Estonia for example we're using 2005 data to model a 2005 system, so we're taking the survey rates as given to us by the statistical office. It's household budget survey data but it's a properly run random sample, properly done as a budget survey like the one in the UK. And so it represents the household population, it does not include people living in institutions and that I think applies across all the countries we have now, there may be some slight differences in coverage in relation to the Nordic countries administrative data stuff that we have.

*Male question* – How hard would it be to introduce regions within countries, would that just be like adding a new country essentially and using the national model?

*Holly Sutherland* – I think it would depend on how big the variation across regions within the country was. You certainly could do that if you had information on which region people lived in or you had data for each particular region. We already have some regional variation in some countries where there are large variations in policies across regions, so I think Spain, I'm not sure about Italy, and so in principle yes but I would probably do it as within the country rather than having a separate model for each region, within the country saying you know if you're in Catalonia then we'll do it this way, if you're in some other Spanish region we'll do it that way, and depending on the differences, if it was simply a difference of level of payment then I'd probably do it in the parameter, the value of the parameters, the value of the benefit or whatever, if it was a whole structural difference then I'd do it separately because on the whole people are interested in the national level so they would then need to go through region by region changing the system. But they'd need to see them all together.

END OF RECORDING