

STATES OF JERSEY

Corporate Services Scrutiny Panel Population and Migration Review

FRIDAY, 16th MARCH 2012

Panel:

Senator S.C. Ferguson (Chairman)
Deputy R.J. Rondel of St. Helier
Deputy S. Power of St. Brelade
Connétable D.J. Murphy of Grouville

Witness:

Chief Statistician

Also Present:

Dr. P. Boden (Panel Adviser)
Ms. S. McKee (Scrutiny Officer)
Mr. W. Millow (Scrutiny Officer)

[10:31]

Senator S.C. Ferguson (Chairman):

Welcome to this hearing of the Corporate Services Scrutiny Panel on Population and Migration. If I could draw everyone's attention to the code of behaviour for members of the public that is displayed on the wall and in particular to the following: all electronic devices including mobile phones should be switched to silent. The taking of visual images or audio recordings by the public will not be permitted. If you wish to eat or drink please leave the room, and I would also ask that members of the public do not interfere with proceedings and as soon as the hearing is closed please leave quietly. Members and witnesses may wish to make themselves available afterwards for discussions with the public and so on, but any communication should take place outside the building and for the sake of the witnesses may I confirm that you have read and understood the witness statement that is before you, the health warning?

Chief Statistician:

Yes, thanks.

Senator S.C. Ferguson:

Super. Now for the sake of the ladies doing the transcribing perhaps we could introduce ourselves. You are?

Chief Statistician:

Duncan Gibaut, Chief Statistician.

Deputy S. Power of St. Brelade:

Deputy Sean Power of St. Brelade.

Deputy R.J. Rondel of St. Helier:

Deputy Richard Rondel of St. Helier 3 and 4.

Connétable D.J. Murphy of Grouville:

Connétable Dan Murphy of Grouville.

Senator S.C. Ferguson:

Senator Sarah Ferguson.

Mr. P. Boden (Scrutiny Officer):

I am Peter Boden from Edge Analytics and the University of Leeds.

Ms. S. McKee (Scrutiny Officer):

Sammy McKee, Scrutiny Officer.

Mr. W. Millow (Scrutiny Officer)

William Millow, Scrutiny Officer.

Senator S.C. Ferguson:

Super. I wonder if you could just, Dr. Gibaut, give a brief summary of the status of the Statistics Unit within Ministerial Government.

Chief Statistician:

The Statistics Unit is essentially an independent entity which sits for administrative purposes within the Chief Minister's Department, but operationally we are an independent unit. The analogy with the United Kingdom would be with the Office for National Statistics which was formerly part of the Treasury Department in the United Kingdom but in the last 2 years or so has become an independent separate agency. The Statistics Unit is very similar, we are the National Statistics Institute for Jersey, although there are only 6 and a half of us, but we are like I say administratively part of the Chief Minister's Department but for all intents and purposes operationally we are independent. We are held to account by the Statistics Users Group in Jersey, again the U.K. (United Kingdom) analogy would be the Statistics Authority, that is in the U.K. an organisation of the great and the good, statisticians and non-statisticians, who hold the Office for National Statistics to account in terms of what they are producing, their methodologies et cetera, and the Statistics Users Group do the same

thing with respect to the Statistics Unit in Jersey. It was established in 1999, there was a Chairman who at the time was the National Statistician for the U.K. and 10 local businessmen, members of the public, and it has existed since 1999 and we meet quarterly, or it meets quarterly and calls me along to account quarterly.

Senator S.C. Ferguson:

Yes. You do not find any difficulty with the fact that although you are paid by the States you are producing information that may not always be palatable to the current Ministers?

Chief Statistician:

No, that is the role of official statistics, whether it be palatable or not, it has to be produced to international best practice without political interference whatsoever. It also tallies very well with my background. My background was as a scientist before I became a statistician in Jersey and again the mode of a scientist or a statistician is to produce unbiased information and although I have over 10 years of working with this Statistics Unit I have had no problems with respect to political influence or whatever.

Deputy S. Power:

This is probably a very difficult question but could you give us a brief summary, and I will leave it entirely up to you how you do it, as to how you conducted the 2011 census? Very brief parameters.

Chief Statistician:

Very briefly, firstly we ran the census in-house for the first time and that was an important decision. I have got a very, very good team in the Statistics Unit and 2 of that team were Census Managers and it meant that all the expertise and conscientious approach and local knowledge which my team and in particular the 2 Census Managers put into all their work became very much a part of running the census. Running the census was essentially a process that had developed over a 2 and a half year period. It is still going on, we have just published the sixth and final of the bulletins that we have been publishing but we are still working on the analysis, we are heading towards a report towards the end of the year and of course there will be further analysis over the years to come. So basically we ran it in-house. How did we do it? Well, we had a ground staff of about 160 or so what we call enumerators, that is field workers going out with census forms, delivering census forms to all members, all households in Jersey. What helped with that particularly compared to last time is that technology had moved on. We had a very good mapping system, a very good address register, so we had very good coverage of the households in Jersey and we had also done some pilots in the year beforehand to see how good the coverage was. So ground staff were trained by my Census Managers, had very detailed training, census maps, census manuals and then hit the ground in the 2 weeks before census day delivering face-to-face to adult members of households more than 40,000 forms, and then households were to return the forms as soon as possible on or after census day, which was 27th March 2011. A great deal came back within the first week, but of course for all sorts of reasons there is a lot of chase-up to be done, and again having run the census in-house on-Island, we had recruited a very dedicated and focused team of collection officers, we called them, who pounded the pavements until the end of August or so chasing up any households, any addresses that we did not get

responses back from. Again, crucial in that these were not just staff that we had worked with over the years, but particularly local knowledge and also crucial within that was the fact that again the census office was set up, managed by my 2 Census Managers but with about a dozen staff, again who were very much looking after the chase-up and co-ordinating the chase-up. That was the delivery and returning of the forms. The data entry we also did in-house, and I did say at the start we ran the whole operation in-house and that included the data entry. So again all the techniques that we used over the years, and have developed over the years, for competent, accurate data entry, double punching, all sorts of error flags et cetera, we could incorporate in-house. One of my Census Managers is a whiz at writing databases and putting all sorts of bells and whistles on databases and data entry, so that we implemented and like I say had a staff of about a dozen who were doing this over the summer. Not only the data entry but the data validation. We could again, because we are doing it in-house with local knowledge, compare with respect to other administrative data bases. We could do all sorts of cross-checks on the data, again the bread and butter day job for us when we are running big household surveys or business surveys. This is what we do. So that statistical expertise coupled to the local expertise, I think was crucial in allowing me to say this has been a very dedicated, accurate and robust census.

Deputy S. Power:

I think that is good.

Deputy R.J. Rondel:

Sorry, can I just ask a supplementary? Would you acknowledge the fact that it was probably a lot more thorough as opposed to the previous census that came out and that perhaps the previous census was not as complete as it should have been?

Chief Statistician:

I think the previous census was done as best as it could have been done, but data entry and database building and validation et cetera was done off Island by companies that do this for a living. However I think important in the Statistics Unit the whole operation being run by professional statisticians, local knowledge, really was an important plus for this census. To give you an idea of the accuracy and the robustness of the data, firstly an undercount was measured for the last census of the order of 840 people. An undercount is whereby you do with the best will in the world try to find everybody and you send troops out there to find everybody. The estimate was 840. We went back and looked at that undercount with administrative data for 2001 that had become available after 2001 and I estimated the undercount to be a factor of 2 greater, about 1,600. The undercount in this census, the 2011 census, we did not get forms back from 158 households, so that corresponds to about 300 people. So in terms of undercount about a factor of 5 or so fewer or lower this time. But also what was important was not just the undercount, in terms of the validity and the internal consistency of the database, the person who is also a whiz at doing the development of the database and bells and whistles and data validation also developed this technique that had been developed in the United Kingdom producing what is called a One Number Census. In 2001 the U.K. went away from publishing an undercount, which had been done traditionally internationally, throughout the world, in the U.K. and in Jersey, to all sorts of statistical techniques where you are imputing, putting in,

not just making up but putting in, using rigorous statistical techniques, people and households for whom you have not had returns. One of the Census Managers went off and did all this for Jersey, so not only was the undercount very low, the undercount was imputed, put into, the full set of respondents with the correct, or at least statistically most appropriate, set of characteristics.

Deputy R.J. Rondel:

So you would agree that this census has been carried out a lot more efficiently and comprehensively than the previous census?

Chief Statistician:

Yes, I would. Like I say I do not want to cast aspersions on the previous census. It was done with the best will in the world and had an undercount and had other issues.

Deputy R.J. Rondel:

Would you know the cost of doing this census as opposed to the previous one?

Chief Statistician:

Yes, I do.

Deputy R.J. Rondel:

Would you be able to tell us?

Chief Statistician:

Right, sorry. It was not a rhetorical question, sorry. The previous census had a budget of just over £300,000 but because of data entry and validation issues and calling in the cavalry, that basically rose to a cost of about £400,000, the 2001 census. The 2011 census there was a budget given to us of £500,000 in 2006 and that budget remained in place for the 2011 census. So the 2011 census got £500,000 in 2006 values. We are on schedule, we have not finished everything yet, we are still doing some analysis and we have got to print off the reports and things, but we are on target for having an underspend in the order of £40,000 to £50,000, i.e. approaching a 10 per cent underspend.

Deputy R.J. Rondel:

Sorry, just to finish on that. Does that include the time of the staff, the extra staff that you have used, doing it in-house as opposed to the previous one?

Chief Statistician:

Yes, absolutely, it does. So it includes ...

Deputy R.J. Rondel:

So it is a like-for-like comparison?

Chief Statistician:

It is, absolutely, it is a like-for-like. Absolutely. So what was a £400,000 in 2001 was probably about 10 per cent more than that in 2011.

The Connétable of Grouville:

As I remember it the 2006 census was cancelled because the money was diverted elsewhere temporarily.

Chief Statistician:

Yes, it was. Not all of it was diverted. Some of it I think was put back into what was Policy and Resources in those days, but about £200,000 of it was diverted into the Statistics Unit to allow us to have more resources basically. So at the time of the 2001 census the Statistics Unit was 2 people, or one and a half when it came to it. About 2005/2006 it was about 4 people but diverting the funds allowed us to employ more people to take us to the 6 and a half that we have now. It allowed us to do things that are very important that a National Statistics Institute should be doing, things like spending an appropriate amount of time on producing the national accounts, what is the size of the economy and how is it changing in real terms?

[10:45]

It allowed us to do that, it allowed us to do other business surveys, for example the Retail Sales Index which we publish quarterly, a Business Confidence Survey which is very important but it is qualitative but really is finger on the pulse, and it allowed us to conduct more business surveys, but I think the real development was introducing an annual Social Survey. The focus clearly up until 2005/06 had been on economic statistics. The diversion of resources allowed us to start running an annual Social Survey which is department-driven, so the Statistics Unit will collect socio-economic and demographic type information, but individual departments will bid and put in for space in the Social Survey for development and monitoring of policy. We produce

that ... gosh, we are on the point of pulling the trigger and finalising the 2012 version to run in the summer and produce results by December. That is a typical timescale. We try very hard to publish the report by the end of the year. If I might add, what we have learnt with that is not just running Social Surveys but very much in terms of doing very efficient data entry, data validation et cetera which was invaluable, the experience we had with that, to feed into the entry validation analysis for the census.

Senator S.C. Ferguson:

We must move on, if you do not mind.

The Connétable of Grouville:

Yes, I just wanted to bring up the fact that the point that I wanted to get to with this question was that in June 2010 you estimated the Jersey population at 92,500. Do you think your inaccuracy there was caused by the fact that they missed the 2006 census and should we in the future have 5-yearly censi, if that is the word, rather than 10-yearly ones?

Chief Statistician:

No, the statistical difference was not caused by not doing a 2006 census. If I could just address this. There are quite a lot of points in there. Firstly, the difference is not as large as it looks. It was 92,500 at year-end 2009 compared to what was 97,800 in March 2011. That sounds like a big difference. The difference is about 1,500 to 2,000 when I account for things that are not in the 92,500. What is not in the 92,500 is the undercount of 1,600 people. Also you have got to think about the year-end 2009 census. Let us reconcile them, let us produce estimates from both measures, the

old technique and the census figures at year-end 2010, close to the census. It is the natural next year-end. So to that 2009 I have got to add the undercount. I have also got to add births and deaths in 2010. I have also got to add net migration, the difference between 2 large numbers in 2010. I have also got to subtract off 2011's new arrivals, as they were not there in 2010. If we do all of that the difference is about 1,500 to 2,000. Of course we are very busy doing this reconciliation at the moment. We are very busy trying to understand the difference between the 92,500 and the census figure, and we are aiming to publish a reconciliation, i.e. a full disclosure and discussion of these differences, about June of this year. So we are very busy doing that. Now the question about would a 2006 census have helped to catch the difference, no, it would not have, because we are going back to produce not just the reconciliation but we are going to go back and produce the time series. In the annual population updates that we produce we produce not just the total population, an estimate of that, but also the net migration in a given calendar year. By net migration I mean the difference between very large inflows, several thousand people coming into the Island, and several thousand people leaving. It tends to be different people. The difference is the net migration. We publish that. Now what we are going to do with the reconciliation is publish a back series, once we have understood what has been going on from the census and going backwards, of annual total figures year-end and net migration figures. Looking at it which I did, obviously as soon as these figures were coming out and starting to become very robust, was the annual population estimates looked to be doing a pretty good job up until the middle of the decade, 2005/06, i.e. the total figure and the net migration. Then think about what happened from about 2005/06 onwards, and the chapter and verse which we are using and poring over at the moment and converting those into mathematical functions to

allow us to do all the statistical stuff, is in Bulletin 2. Bulletin 1 was the headline figure, and the net migration et cetera. Bulletin 2 was the detail and if you look at that you can see large inward flows from various parts of the world. 2004 was accession of European Union countries, 8 countries, mostly Eastern Europe plus Malta and Cyprus, but accession 8 countries in particular and in particular Polish nationals coming into the Island, starting in 2004 but ramping up through 2004, through 2007 and 2008 and also a later enlargement in 2007 when Bulgaria and Romania entered the European Union. That was one effect. Another effect was the ongoing inward migration of Portuguese Madeiran nationals at pretty much a constant level throughout the decade and a third effect in terms of migration was from the rest of the world. Although Jersey did see strong economic growth in 2005 to 2007 and then a downturn, nevertheless the employment market remained relatively flat throughout the recession and at the highest level that we had seen in the 2 decades that we have been producing employment statistics. So not only was there inward migration from Eastern Europe, the rest of the world and the U.K., there were clearly employment opportunities. The employment market was very, very high.

The Connétable of Grouville:

I am just trying to subscribe to the fact that we have got 2 years, 2009 to 2011 when in fact the population increased by 5,000 according to your figures.

Chief Statistician:

No, it did not. I am sorry if it did not become clear.

The Connétable of Grouville:

I do understand that you are setting things off against various variables that did come into it as well, but it just seems to me that we do have a situation where we have got a net increase of 5,000 over 2 years.

Chief Statistician:

No, absolutely not.

The Connétable of Grouville:

No? Okay.

Chief Statistician:

I am sorry if it did not become clear. It is awfully hard, I am sorry, to talk numbers.

The Connétable of Grouville:

I do understand that between 2001 and 2009 you had a bit of a guesstimate because you had, as you say, various variables that came in, Polish immigration, Portuguese immigration et cetera, so the 92,500 figure was not very correct?

Chief Statistician:

It was not just the 92,500. It was probably several years before that.

The Connétable of Grouville:

Yes, that is what I am trying to say, the 8 years between 2001 and 2009 threw up some variables which were not included in the 92,500 figure in 2009?

Chief Statistician:

No. As we start and are getting into the guts of how we do these annual estimates, the variables that we have got in there, the methodology for producing these annual estimates, overall looks correct, in terms of the work. We have got the correct variables, we are looking at things like births and deaths and migrants coming in, but it is the rate at which migrants have been entering since about 2006/07 in particular and also the rate at which migrants and locals, non-migrants, have been leaving, particularly since 2005, 2006 and 2007. So these are the variables in the calculation but the parameters describing the mathematical functions of these inflows and outflows seem to have changed, and this is what we are working on very hard, around mid- to late decade because of these external influences, but also clearly, although we cannot say this was the trigger that did it, there were other things going on in terms of local policies.

The Connétable of Grouville:

So in fact you were not getting enough information fed into you in order to make a clear and accurate guesstimate?

Chief Statistician:

We had sufficient information ...

The Connétable of Grouville:

I do not mean to insult your intelligence by saying guesstimate, it is just a word that comes to mind.

Chief Statistician:

No, the information was very much the right type of information. It is just that the statistical techniques did not allow for the changes that we saw in the mid- to late decade. You started off about 10 minutes ago asking would a 2006 census have helped. No, it would not have. We may have caught some of the upswing, some of the change in the migration flows in these mathematical parameters, however I do not think I would have changed the model, the statistical calculations, based on what was potentially one year, and even in 2007 we are still on the upswing of these flows of inward migrants and that would be no reason for me as a statistician to change my model. The 2011 census has given us the benefit of recalibrating, seeing how well we did, but also recalibrating the modelling aspects. Some of the population aspect update was from administrative data, births, deaths, et cetera but some of it relied very much on modelling of inflows and outflows. 2006 and 2007 would not have been sufficient I do not think for me to change largely the parameters affecting this modelling. 2011 now will. I have got enough information to say: "Right, let us look back." So this was always going to happen in terms of the annual update. No matter what was going to happen in the 2011 census, it would be recalibrated.

The Connétable of Grouville:

So you are saying they were one-off variables?

Chief Statistician:

They may not be one-off variables. They were variables that came in, European Union enlargement, accession enlargement and also the global economic situation. Even though the Jersey economy has seen real term falls nevertheless the manpower,

the workforce, has maintained in employment very high levels. So compared to for example the U.K. or particularly the Euro Zone, Jersey has in terms of employment held up very well. Whether or not there is going to be more economic downturn, so I cannot say one off variables but what I can say is there is a whole bunch of external influences but also some important local influences as well, in particular for example the dialling down of the housing qualifications from 19 years down to 10 years between 2001 and 2010. Whether or not it is the direct cause, nevertheless the outflow of people is now much lower than it was during 2001 to 2005.

Senator S.C. Ferguson:

So you are saying that the dialling down of the housing requirement has encouraged people to stay in the Island?

Chief Statistician:

I am not saying directly that there is a cause there, nevertheless it would possibly be an influence.

Deputy S. Power:

Two questions really. That is ultimately why the next Housing Needs Survey is so critical to the work you are doing I think this year and next year. In terms then, Dr. Gibaut, of the population modelling that needs to be done now as a result of this brilliant piece of work in 2011, if I may say so, where are we in terms of the driver, the dynamics that you have so accurately defined in Bulletin 2? Is it your opinion that those drivers, those new accession countries are going to continue to perform and

carry on and create the same set of forces that we see as a result of Bulletin 2? Is that going to carry on, in your opinion?

Chief Statistician:

I cannot make predictions like that. Statisticians tend to be backward looking and then we make projections, deterministic projections. So I do not know. We have come to a level where we have seen a Polish community of the order of 3,000 people for the last 4 or 5 years or so and we monitor that through our manpower reports, through Social Security, unique contributions. So the size of the Polish community as measured by the census tallied very well with what we have been tracking for the last few years. Maybe rather than making forecasts et cetera I could put into context what we are doing with the Statistics Unit over the next few months. The first thing is, as I tried to describe to Constable Murphy but it is quite techie, the reconciliation and that will be coming out I am aiming for June, July. June, hopefully. That is going to be addressing exactly what Constable Murphy asked. In the background the Census Managers who are also wizards at doing all sorts of things are also developing the population projections, so we had a set of projections based on the 2001 census.

Deputy S. Power:

Sorry to interrupt. Is this directly related to population modelling?

Chief Statistician:

Yes, this is population modelling.

Deputy S. Power:

So you are directly involved in population estimation and population projection?

Chief Statistician:

We do it.

Deputy S. Power:

You are doing it?

Chief Statistician:

Yes. I will back off from that a little bit to give you some ancient history. The 2001 census, that was a baseline for population projections that were run by the Government Actuary's Department in the U.K., the Government Actuaries do this stuff for real, the U.K. do it for all sorts of pension funds et cetera. We brought that in-house in about 2004/2005. We had the Government Actuaries look at our methodology and gave it a rubber stamp saying: "Yes, these guys are doing it as they should be doing it, so much so that they have been using our population projections for the estimates that they do, for example for the Social Security Fund." Okay? So basically again one of the things I wanted to do was use local expertise as much as possible. We have very, very good statisticians on-Island with local knowledge. Let us use it.

[11:00]

So we have done that. So since 2004/05 we have been producing these population modelling projections, and that is what one of my Census Managers is doing at the

moment. So we are working on the reconciliation and understanding the changes of what is going on in terms of the migration in that will allow us to feed that into these modelling projections which will then allow us to model the Jersey population over the short, medium and very long term. I should stress these are projections, not forecasts.

Deputy S. Power:

I know that Dr. Boden wants to come in with a question. Two questions on that. My final question on this would be do you think it is realistic that the population estimate that we could stick to of 100,000 given the results of your census and given the information that you have given us on the birth rate is now realistic?

Chief Statistician:

Well, just simple mathematics off the top of my head if we are close to 98,000 the natural growth is 300 per year. If we continue with that natural growth for another 6 or 7 years we are going to go above 100,000, unless there was net outward migration. A population grows through natural growth and net migration. If the natural growth picks up and there is nil net migration we are still going to be hitting 100,000 in about 7 or 8 years.

Senator S.C. Ferguson:

You talked about the population projections. Were there any particular surprises in those?

Chief Statistician:

No, not really, because it is a deterministic model. What we do is we set a baseline and we put in what is called age specific birth and death rates, so you have got distributions, functions, which you then apply to 2001 and just march through the population in time. So it is deterministic, you multiply each age by death rates and you are producing babies. The tricky part in all of this is net migration, and the really tricky part is outward migration, not just for Jersey but for people doing it in much bigger jurisdictions like the U.K. measuring outward migration is terribly difficult. So what we have in the population model to produce these projections are models of the net migration, models of the inflow, models of the outflow. Now we have learnt, we had models that were based on the information from the 2001 census, and we have now got a new set of data from which to produce new models of the inflow and the outflow. So not a surprise as such but we have now got more recent information to particularly model these big inflows and these big outflows. The real problem for us as statisticians and not just in Jersey but everywhere is modelling this net migration, because it is the difference between 2 very large numbers, and in not just migration but in anything, in physics, if you are looking at the difference between 2 large numbers that can be quite unstable. Okay? So that is what we are trying to do, model a big inflow, model a big outflow, to produce an estimate of the difference. With this new census information we can then feed in the information to model both of those, put it into our model and then produce. We do not say what is the right net migration, we are not didactic at all, we will produce a model with nil, plus or minus this, plus or minus that, plus or minus whatever. We have then got a model that the policymakers then can look at and say: "The results of net migration inwards are this, and will be that in (n) years' time." Also another reason that we brought this in-house, apart from the fact that we can do it, is that we have got a model that we can interrogate. So

anybody, not just the Chief Minister's Department, even though that is where we sit administratively, anybody can ask us what is the effect of this level of net migration or what would give us this in terms of constant workforce or constant dependency ratio. We have got a model that can be interrogated.

Deputy R.J. Rondel:

Do you see any difference in the fact that when the Island stopped the work permit scheme is there anything in the results that show there was an increase in immigration due to the States making that decision?

Chief Statistician:

You can see that very much in Bulletin 2, there are some spreadsheets at the back, if you particularly look at Eastern Europeans who were covered by work permits up until May 2004. The Eastern Europeans were coming in at a rate of about 1,000 per year or so up until late 2003, early 2004 and then were not covered by work permits when those countries got EU accession, so you can see the ramping up from Eastern Europeans after accession.

Deputy R.J. Rondel:

So due to that change in policy of the States it has led to quite a significant increase in immigration?

Chief Statistician:

That was not really a change of policy of the States, that was the Eastern European countries becoming part of the European Union and then not requiring work permits, free movement of labour between the EU countries.

Deputy S. Power:

There is another dynamic out there that I think the Population Office diagnosed, and that is that there are between 15,000 and 20,000 people residentially qualified who do not live in Jersey. Any change in the prospects for the U.K. economy, and most of those are in the U.K. would obviously have an effect here, if some of those started to come back quickly. Is that something that you have addressed or something that you need to factor in?

Chief Statistician:

One of the issues that we will be particularly looking at will be net migration of (a) through (h), of locally qualified people and we will need more information on that to include that in the population model. Yes, I mean Jersey clearly in the last few years in terms of employment opportunities has been a port of safe haven for people from around the world, so the rest of the world, Eastern Europe, U.K. et cetera, but also potentially for Jersey people wanting to come back. We can factor that in and in the population model we can put in different rates of (a) through (h) and (j) and non-qualifiers or whatever they are called under the new migration law. These different rates of migration through different qualifications will all be factored into the population model to give us these projections, none of which are the right answers, by the way. Basically the projections, you put in your inputs, this is what you get. We

can give you the space to say: “Under these inputs you get that. Under these inputs you get that” or at least are projected to get that in a deterministic sense.

The Connétable of Grouville:

But we have so many outside influences that could affect our population, which you cannot possibly take into account.

Chief Statistician:

Absolutely.

The Connétable of Grouville:

The E.U. (European Union) might throw up something really nasty for us which would mean half the population leaving the Island or whatever.

Chief Statistician:

Absolutely. I mean this is a model based on demographic type statistics.

The Connétable of Grouville:

I do understand that, that you are only using what you have got.

Senator S.C. Ferguson:

So under the current way we are going on and the current policies that are being promulgated, when do we reach 100,000?

Chief Statistician:

Gosh, if it was nil migration it would be in about 6 or 7 years. The migration that we have seen over the last few years, the net migration, we are working on that. But if you factor in a few hundred per year on top of the natural growth then obviously we are going to reach 100,000 much sooner. Now we will be producing annual estimates. Not only are we going to do the reconciliation of 2010 but we will be producing annual estimates based on our new information with our better and more relevant parameters to produce annual estimates in 2011, 2012 and 2013. So you will know as soon as we reach a certain number. We will be producing that. Typically we tend to get the year-end estimates out about mid-year because I need the births, deaths data, I need school information, health information, manpower information and a bit of modelling. So that tends to come in mid-year relating back to the previous end of year.

Deputy S. Power:

Are fertility rates on the Island in line with the U.K., E.U., and Ireland? Can you make a comment on our natural fertility rates here?

Chief Statistician:

Historically they have been much lower than the U.K. For example in the first 5 years or so of this decade, we measure an age-specific fertility rate for each age of women between the childbearing ages, but the number to think about to simplify is what is called the Total Fertility Rate, which is the number of children on average a woman could be expected to have in their childbearing years. In Jersey, in our model at the moment, based on information from 2000 until the middle of the decade that was 1.57, so about one and a half children per woman. The U.K. at that time was about

1.7, so we were below. What is called replacement fertility, if you have no net migration, close all the doors, to replace as people die you need a fertility, T.F.R. (Total Fertility Rate) of just over 2. I mean theoretically it is 2 but there is some infant mortalities and some other mortalities. So you need about 2.1 as replacement fertility. If you are below that your population without net migration will decline. Jersey was at 1.57, U.K. was at 1.7. More recently the numbers of births, and you can see it from the Superintendent Registrar, has increased. What was of the order of 800 to 900 births per year in the last 3 to 4 years has been well over 1,000. So clearly our T.F.R., we are working on that, what is now the latest T.F.R. which we will feed into our model. But the U.K. has seen a very similar effect. The U.K. in particular produced population estimates and projections and has seen the T.F.R. go up towards 1.8, 1.9. I cannot quite remember the exact detail, but the increase was driven by immigrants.

Deputy R.J. Rondel:

But we will still be below them?

Chief Statistician:

We do not know yet. So that is what we do. One of the first things, one of the precursors to our population model is we need a new set of age specific death rates, a new set of age specific fertility rates. We do it for Jersey but we compare to what is going on in the U.K. So the Government Actuary's Department are producing new birth rates and death rates almost continuously and so we need to compare to them as to what is the methodologies that they are using, but we make it Jersey-specific. That was another advantage of bringing all this modelling and population projections in-

house. Previously the U.K. rates were used. We now use since 2005 or so Jersey-relevant birth and death rates.

Deputy S. Power:

The indicators of the Total Fertility Rate, given that ours seem to be matching the U.K., it is migration-driven?

Chief Statistician:

It is certainly a key component. I mean there may be other issues, local effects as well but in the U.K. migration is a large factor within that increase, yes. Whether or not in Jersey we do not know yet. We are working on that analysis.

Deputy S. Power:

How soon do you think you will have an analysis of the T.F.R. rate and component parts, or the composition of it?

Chief Statistician:

We do not know. Like I say what I am looking at is reconciliation by June and population model which we can interrogate and produce a report which are some scenarios which people can then interrogate, by about December. But all of this, what you are asking, is a thinking problem. It is not something I can say: "Right, give me the data and we can do it." We have to go off and scratch our heads and sit back and look at the data and understand it, so I cannot give you a date.

Deputy S. Power:

But the 2 strong dynamics are that the T.F.R. rate is up and natural net migration into the Island as a result of changes to the E.U. accession are up so those are 2 big dynamic drivers that look to be fairly consistent for the foreseeable future.

Chief Statistician:

Also the birth, the age-specific death rates are declining, so people are living longer, so on top of all of this, increased fertility and increased migration, you have got an ageing population, i.e. people living longer.

Deputy R.J. Rondel:

That comes nicely on to the question I was going to ask. Could you just elaborate on the evidence you have got that supports the claims that the Island has got an ageing population from your figures? Are you confident they are robust?

Chief Statistician:

Yes, very much. You can look at the population pyramids that we produce in Bulletin 1 and compare those with respect to 2001 and you can just see that yes, there is a greater number now. One thing that has happened though, because of the increase in the T.F.R., the birth rate in the last few years and also an increase of net migration, i.e. the workforce, is that the dependency ratio, not just the total population is of interest when you are looking at projections, it is what is the structure? One of the 2 very direct measures of structure is a worker-pensioner ratio, how many workers do you have, and this is done in terms of demographics rather than people of working age who might be retired. It is: "Here is your working age. Divide it by those of pensionable age" and the other is the dependency ratio where you have got the

numbers of school age and pensioners divided by the number of workers. That dependency ratio has remained very similar in 2011 compared to 2001. So although the population has aged and although we have had some children, particularly in the last few years, some births, increasing we have also seen a comparable increase in the workforce driven particularly by migration, such that the dependency ratio in 2011 is very similar to that of 2001. That is one thing to bear in mind, if I could just point out, do not just look at the total population, look at the structure. Look at things like worker-pensioner ratios, size of workforce, dependency ratios. These are very informative.

The Connétable of Grouville:

It is understood that the reconciliation of the 2011 census with previous population estimates will be completed in June 2012?

Chief Statistician:

All going well, yes.

The Connétable of Grouville:

All going well? No problem there?

Chief Statistician:

None yet. Hopefully. Our whole life is deadlines. I mean we have deadlines every 2 weeks and we manage to meet all of them so all going well we will meet that.

[11:15]

The Connétable of Grouville:

What information is likely to be included in the reconciliation?

Chief Statistician:

What we will do is we will look at the year-end 2010 under the old methodology, under the new methodology working back, and account for any discrepancy, any difference. The factors we alluded to already in that difference are going to be things like change in level of migration, inward; change in rate at which people are leaving; including the undercount; other smaller effects like natural growth in 2010. So we will unpick the difference and once we have got that difference we will then see what we have to do to the old methodology, what do we have to incorporate in terms of mathematical functions, changing parameters and any additional information. For example Dr. Boden will be well aware, in all of this I have not mentioned attaching non-economically active dependents to the data sources that I have for these updates. The Manpower Survey is a manpower census, so we get to a gnat's eyebrow the numbers of workers by qualification, we get births and deaths, we get school age children, we get pre-school children. These are all mini censuses. But to that not only do I have to do some modelling of migration, I have to add non-economically active adults to that. So how do we change that? So what this reconciliation will include will be let us look at the difference under the 2 approaches from 2010, and then what do we need to do to the methodology that we have in place to make it more robust going forward? What do we have to change and what do we have to add to it? So then we can produce a 2000 and (n) going forward. I would hope in June 2012 to produce a year 2010 reconciliation and an updated, tuned up 2011 year-end.

The Connétable of Grouville:

Yes, but it will be an updated population model, will it not?

Chief Statistician:

No. There are 2 things. It will be an updated methodology for producing annual updates. That is the front end and we learn a lot doing that. That is the front end to this much greater, bigger thing of producing population projections which will be out in, again, fingers crossed, December-ish. So there are 2 things we will be doing. There is the reconciliation where we are learning a lot and we will produce annual updates, but that gives us information as to how to produce new projections. The updates are based on principally administrative data, births and deaths, workforce, school and pre-school and some modelling, whereas the projections are all modelling. Okay?

The Connétable of Grouville:

Okay. I think I will leave it at that.

Senator S.C. Ferguson:

Super. Are there any lessons that you have learned in the completion of this census that are important to consider when we are generating the future projections?

Chief Statistician:

I do not know about lessons. It is more information and we will just pore over this information and incorporate them into the modelling. As statisticians, as scientists,

that is what we do. We get more information, we change things. So we have a model that was developed in 2003, 2004 producing annual updates and then projections. That was where we were then. We now have got more information and will change the model. It is very much a scientific approach, basically. As we get more information we take it on board and incorporate it.

Senator S.C. Ferguson:

Yes. Are you now able to have access to data from the Population Office on allocated job licences and so on, to add another dimension in reconciling your results?

Chief Statistician:

Yes, we do and we have and publish for example, the numbers of J-Categories, and we have private sector J-Categories, public sector J-Categories. We have access to the numbers of licences in principle, under 3-year licences for locally qualified and non-locally qualified. We have access and have had access to that for 10 years. In fact we used to produce the reports of those 10 years or so ago. We used to produce: “Here is your summary of joint licences, proportions by sector of locally qualified and non-locally qualified, here is the same for firms not under joint 3-year licences.” As the Population Office have brought more and more firms, in fact almost all, under joint 3-year licences they produce those statistics themselves, but yes, we have access to those.

Senator S.C. Ferguson:

In that case, forgive me for being a little dumb on this, if you have got access to that how come you missed the significant increase in the unlicensed population?

Chief Statistician:

What the Population Office produce are licences in principle. They may not be filled. What we get from our Manpower Survey though is chapter and verse on the actual, what the licence is turned into, i.e. employed, locally qualified J-Categories and non-locally qualified. So the Manpower Survey is very important for giving us the level of non-qualified employment as opposed to in principle licences. If I may delve into a very important part of the reconciliation and future updates that we will be doing, there will be a change from non-locally qualified to locally qualified. We use that information and it feeds into our calculation and is a very important component of the estimate of net migration. The Manpower Survey gives that, if we look at year-end 2010 versus year-end 2009 non-qualified in principle there is your number, you are changing your non-qualified. But what we have to estimate is the change of non-qualifieds into locally-qualified and that is where we have to do some estimates from our census information.

Deputy R.J. Rondel:

Are you confident the Manpower returns are accurate?

Chief Statistician:

Over the 10 years yes, we do interrogate. We get the information back and any queries that we have we have sent back to Reg. of Uns. or to the Population Office as it became. Of course whether or not it is accurate completely, there may be some misclassification and we put that in there in terms of non-qualified, locally qualified. Of course there will be some uncertainty at a very low level.

Deputy S. Power:

It is only accurate insofar as those that make a return?

Chief Statistician:

Yes, absolutely.

Deputy S. Power:

You have referred, Dr. Gibaut, to the future work that you need to do. If I could just ask you specifically about the population migration parameters that are changing with regard to housing needs? You have done the Housing Needs Survey which came out in April 2008. There were certain indicators there which did not and could not possibly embrace the wave of immigration we have had from the accession states. It also did not factor in the downturn or the change in the economy, so the next Housing Needs Survey is obviously going to produce some dramatic information, I would suggest. Would you agree?

Chief Statistician:

It will be very informative because as you say late 2007 there was net inward migration increasing but particularly that was a time of strong economic growth, not just in Jersey but globally. We are running another Housing Needs Survey imminently, within our Social Survey. So in the past we have run 3 rounds of Housing Needs Survey, 2000, 2004 and 2007 for my sins. We have also run one within Social Survey in 2009-ish, and that is how we are going to operate from now on. We are incorporating a Housing Needs Survey, the guts of what we need to

estimate Jersey's housing needs over the next 3, 5, 10 years or so within the Social Survey. The Social Survey now is the vehicle for doing Housing Needs Surveys, so we are running that within the 2012, results for that will be out in late 2012 and I can foresee with this vehicle now we run the survey annually, there is no need I do not think to include the Housing Needs Survey every year but it is certainly something through the Social Survey that we can pop in every 2 years. So rather than running a great big standalone (n)000 separate household survey with 30 or 40 pages we now through running 3 rounds of this thing know how to get to the guts of the issues and turn it around much quicker, but again with large, random samples of households.

Senator S.C. Ferguson:

Going back a moment, you were talking about being able to track your unlicensed becoming residentially qualified.

Chief Statistician:

No, we cannot track that. That is part of the modelling aspect of the annual update. How many people come in, in year zero, and then how do they outflow in year one, 2, 3, 4, 5 still here and if they are employed they are non-qualified. The labour force survey gives that number but it does not give us the transfer each year for non-locally qualified to locally qualified. So that transfer there is crucial in our estimates of the annual update and net migration, how many people change from here to here and it all depends upon the rate at which people are leaving the Island. If previously they come in and it would be a sharp decrease to years 5 and 6 and then another decrease after housing qualifications et cetera, if that has changed and the indications are from our analysis that it has, it has important implications for the numbers transferring from

non-qualified to locally qualified and staying on the Island, and also for the numbers leaving beyond our 6 years.

Senator S.C. Ferguson:

Because the knock-on effects are on to Social Security as well as Housing.

Chief Statistician:

There is that as well, absolutely. The 5-year criteria.

Senator S.C. Ferguson:

Are you going to be able to produce statistics that give any guidance to Social Security as well as doing the Housing Needs?

Chief Statistician:

What we are going to be doing is statistical estimates with modelling. What you are getting to is more administrative type data, Social Security will have an administrative database that will be tracking people coming in by nationality and year of arrival, so in terms of the individual Social Security will have that part of their criteria.

Senator S.C. Ferguson:

So you are going to be able to access that to use that data in your modelling?

Chief Statistician:

Potentially, yes. So when I say that we are updating the annual estimate and the model, not only with the old methodology but incorporating new information, if that

new information is robust and for example there is a very good example potentially then we will incorporate it.

The Connétable of Grouville:

The Minister for Economic Development was here earlier and I asked him a question, how much liaison had there been between his department and Social Security and he said very little, but he said that will improve in the future. Will that be of assistance to you and how will it assist you?

Chief Statistician:

Not really. We operate independently so if we want information ...

The Connétable of Grouville:

I am thinking of the flow of information.

Chief Statistician:

Potentially yes. I mean potentially if there is a population register with a centralised database to which we will have access with the appropriate data protection et cetera then yes of course. That is more information to us, more information into our annual updates, however if there is a population register that is mature and robust then of course that becomes essentially the real time estimate of the population without having to rely on the methodology that we have put together from administrative databases with some statistical modelling. So that essentially would negate the necessity eventually for an annual update.

The Connétable of Grouville:

I am just trying to think how we could shortcut the information flow to you.

Chief Statistician:

We just go to people and ask and if it is good we use it. That is one of the benefits of being independent in that it is not the Chief Minister's Department that is asking for it, it is the independent Statistics Unit is asking for this information.

Deputy R.J. Rondel:

Was there a difference between your census figures for the level of unemployment compared to the Social Security and if so can you elaborate why that was?

Chief Statistician:

Yes, very much and there always has been. There are 2 levels of unemployment, not just in Jersey but in jurisdictions like the U.K. There is the registered level who register with Social Security, and there is what is called the International Labour Organisation definition which includes not only people who are registered but all those who are also economically active, i.e. looking for a job, in between jobs, would like a job, but are not registered. So it includes the registered and all of the above. What we measured for the census in 2011 was an I.L.O. (International Labour Organisation) rate, you measure a percentage of these unemployed compared to those of all economic activity, of 4.7 per cent. That is low compared to jurisdictions like the U.K. which went to about 8 per cent very recently but was just about 8 per cent at the time of our census, and low compared to the Euro Zone and the U.S. (United States) for example. However what does 4.7 per cent mean in terms of real people?

It means that there are almost 2,600 people in Jersey who were unemployed at the time of the census. The registered at the time of the census was 1,300. So the I.L.O. number, the real level of unemployment, was about double that of the registered level. We measure the registered, and we produce the figures for the registered, the Social Security Department give us that data every month.

[11:30]

We go off and independently analyse it and so you get a monthly report on the registered unemployment, which was 1,300 at the time of the census and is now pushing 1,700. The I.L.O. measure which is a rate that we can convert into real people, we measure through the census every 10 years but also annually through the Social Survey. So at the time of the last census the I.L.O. rate for Jersey was 2 per cent, it was just over 1,000 people. Through the Social Survey we saw it just over 2 per cent through the mid-2000s, 2005, 2006 and 2007 and then creeping up towards 3 per cent, and then the census figure was 4.7 per cent. So yes, bear in mind the monthly figures you get from us are registered. The fuller picture is the I.L.O. number.

Deputy R.J. Rondel:

So it could be anything between 1,000 and 1,500 out?

Senator S.C. Ferguson:

I think we need to move on because we are getting to the end. Will the introduction of the names and address register mean that we are unlikely to be surprised by future census results?

Chief Statistician:

The names and address register will in principle give you a real time measure of the population.

Senator S.C. Ferguson:

But you are not prepared to put your neck out on that one?

Chief Statistician:

Well, again going back in time a little bit, this 2011 census my understanding was apart from it being an exercise in its own right, and it is very important for all sorts of reasons, it is very rich, there is all sorts of information in there, it was going to be used to be calibrating a population register which was already mature. So looking back in my emails and files from 2004 to 2005 when I started working on this annual update is that it would sit for a few years, we would run and calibrate it using a census, but in the interim a population register would be coming out from migration and population policy and the goal or one of the uses of this census would be to calibrate and validate the register independently by the Statistics Unit. Census information is sacrosanct, so any calibration or validation of other administrative databases would be done in-house only by the Statistics Unit. That is what my understanding was several years ago. Obviously that did not transpire, so the census became the thing in its own right. If, over the next few years, a population register

does take place and become mature then of course there will still have to be the need for a validation against my census figures and our projections of them, independently by the Statistics Unit. My perspective is that any annual update or any measure of the population from the population register, in parallel to that I would keep on doing annual updates until it becomes clear that the register is saturated and mature, i.e. giving us the correct figures.

Senator S.C. Ferguson:

When is your feeling that the register will be mature?

Chief Statistician:

I do not know. Gosh.

Senator S.C. Ferguson:

We are told that it is expected that the register will be complete, relatively, by December 2012.

Chief Statistician:

I am a statistician; I cannot make forecasts.

Senator S.C. Ferguson:

Okay, that is an unfair question.

Chief Statistician:

If it comes, great, then my annual updates can go over the horizon one day but very much in place over the next few years we have a census, very rich and complete and thanks to my Census Managers no undercount. We have imputed everybody with proper statistical techniques. So any population register that comes in over the next few years will have to be validated, calibrated against this census and against our updates of it. Ancient history, 10 years ago I remember discussing I.D. (identification) cards, 7 or 8 years ago a population register. Like I say this census was to my mind going to be calibrating an already existing register. We will wait and see.

Deputy S. Power:

Just one last question on the population register. The physical constraints of implementing it over the summer and into early autumn seem to me to be difficult, and then allied to that is the fact that it does have to be calibrated for accuracy. It has to be tested, it has to be audited, and that is where you come in, so it will be interesting to see. I do not accept what we were told this morning, that it is going to be fully in place by the end of the year. To me that is a physical impossibility but it will be tested and audited and calibrated over a period of time and I think you would have to agree with that.

Chief Statistician:

We will play a part in that. Obviously there are officers and departments with administrative databases to feed into the population register but for our purposes it is going to be extremely important. It is not just a population register, an annual measure in real time of population, it is in principle the sampling frame for every

household survey, every social survey, that my unit does. We have a census and an address register. That is my sampling frame at the moment and it is very rich from the census that we have got in terms of tenure, household structures. So clearly we want to be looking at the register to see how rich it is and if it can be used as a sample frame.

Mr. P. Boden:

Can I just ask a question? I just make the point that Jersey should be very pleased that they have got a Statistics Unit of the quality that they have got here. It is fantastic. The work they do, the surveys they do, the census they do and their understanding of demographics and demographic data is just first class, absolutely first class. I just wanted to make a point about projections and people think there is some magical number that is going to come out of the projection process. That is not the case. The population projection is a fairly standard methodology, cohort component methodology, and is based upon recent history. If you took recent history then the net increase in population say over the last 5 years has probably been 700 to 800 per year. So crudely if Duncan is to generate a projection at the end of this year it is going to tell you that over the next 10 years the population will increase by between 7,000 and 8,000. So the 10-year projection for your population will be that Jersey's population will be 106,000 or 107,000 by 2022. That is crudely how it is going to work. So no surprises there, do not expect the population projection model to come up with a scenario whereby population growth is flat. The only way you are going to get population growth to be flat is if policy dictates and the methods, the control mechanisms, dictate the population does remain flat.

The Connétable of Grouville:

Or there is a declining economy.

Mr. P. Boden:

I do not think that necessarily a declining economy will mean that your population will not grow.

Chief Statistician:

We have had a declining economy for the last 2 or 3 years and we have seen, Dr. Boden, his estimates of the net migration may not be spot on but they are probably going to be of the correct sort of order.

Mr. P. Boden:

That is not just migration; that is migration and natural change, the 2 components.

Chief Statistician:

Yes, but of course we will produce numbers like that. We will produce population projections for net nil, plus 100, plus 200 and of course plus whatever it has been over the last 5 years. None of these are the right answer but they give us the perspective of what is going to be happening.

Senator S.C. Ferguson:

A feel for what could happen. Yes, because you talked about the dependency ratio not being as bad as everybody said it was going to be.

Chief Statistician:

It changes slowly initially, from the 2001 projection and then ramps up quite quickly from about 2020, 2030 onwards. The initial changes are quite small.

Senator S.C. Ferguson:

Have you changed your view on that projection?

Chief Statistician:

I do not know. We are doing all of that. That will be part of the new modelling.

Mr. P. Boden:

That is quite important. That is your population pyramid and you have got a very wide waist. These people here are all getting older and that is inevitable, you cannot stop that ageing process, so over time what you are saying ...

Senator S.C. Ferguson:

Really it depends on whether they are staying or going. Whether they are part of net migration or whether they are here to stay.

Chief Statistician:

That is a good point and we are exploring that.

Senator S.C. Ferguson:

You will be looking at that?

Chief Statistician:

Absolutely. I know someone sitting not a million miles away here who is looking at that.

Senator S.C. Ferguson:

That is why she is sitting in the corner. Yes, obviously, and people like the Connétable and I who are getting a little over the hump would like to know that ...

The Connetable of Grouville:

We are going to the Costa del Sol.

Senator S.C. Ferguson:

... the youngsters are going to be here to look after us.

The Connétable of Grouville:

I just tell everybody to grab their pension while they can because it might not be there in 10 years.

Senator S.C. Ferguson:

Anyway, I am sorry. Any more comments? Anything else you think we ought to know?

Chief Statistician:

No, I think I talked a lot, sorry.

Senator S.C. Ferguson:

Thank you very much indeed. It has been absolutely super.

The Connetable of Grouville:

Very interesting.

Senator S.C. Ferguson:

So clearly explained even a politician can understand it.

[11:40]