

BSPS Conference 2005 – Special theme: Intergenerational Relations – University of Kent at Canterbury 12-14 September 2005. Conference Report

Plenary Sessions

Professor Emily Grundy (London School of Hygiene and Tropical Medicine) opened the conference with a plenary session titled *Intergenerational exchanges and family support of older people*.

Emily began by introducing the different types of intergenerational support, grouping the support into two types, family support and community/state support. Much of the rest of the talk focused on family support. But before going on to this Emily described the intergenerational theories for reasons of intergenerational exchange: altruism; exchange; and, generalised exchange. However, Emily did not consider it to be clear which of these motives people act upon.

The decline in fertility is the main cause of an increasing older generation, exacerbated with gains in life expectancy higher in Europe than in S Africa, E Asia and W Africa. An overview was given of multigenerational families including differences by country, income and social group. Data showed that the proportion of parents aged 80 and over seeing a child daily is higher in Greece, Italy and Spain than the North European countries of the Netherlands, Sweden and Denmark.

Data from the British Retirement Survey was analysed to consider mutual reciprocal exchange. The data suggested that the transfer of help is generally provided downward from parent to child. Emily discussed the 'sandwich generation' who have both an adult child and parent alive and said that if help is provided to a child there is a likelihood that help will be provided to a parent. Higher status parents were more likely to give while lower status older disabled parents were more likely to receive.

Areas for discussion included the question of whether older people would prefer help from the community or state rather than from the family. Analysis of the psychiatric morbidity and cancer survival rates concluded that support from a spouse and children has a positive effect on health.

Emily concluded by discussing the perception of crisis caused by demographic change and suggested that the level of alarm is overplayed. Evidence shows that the level of intergenerational support is high in the UK and that there is no indication of a decline.

An interesting discussion followed which included the question of 'family diaspora' and whether this had an impact on the level of intergenerational support provided. Emily did not feel that there was a much higher level of dispersion today than in the past. Many people continued to live within fairly short distances of their family, but it may be that there were ever-greater distances for those in professions such as academia or journalism. The issue of religion was also discussed and the part this might play in the provision of support. It was concluded that it was not possible to clearly determine how much impact religion or family culture has on the support system of a country.

The second plenary was by the internationally renowned demographer Ronald Lee from the Departments of Demography & Economics, University of California Berkeley who spoke on *Intergenerational transfers: a broad view*.

He began with a description of hunter-gatherer societies to show how the transfer of resources from adults to children has always been a central feature of human social and economic life. But increasingly societies are redirecting the flow of resources upwards towards the elderly. This is a reflection not only of the changing demographic context of declining mortality and fertility and the ageing of the population, but also changes in the shape of the economic life cycle. Where there was once a strong downward flow of resources that were invested in the young, there is now competition from the growing numbers of economically dependent elderly people. Ron compared how resources have been reallocated in different societies from hunter-gatherer to modern industrial societies and discussed the expanding role of the public sector in intergenerational transfers that were once made primarily within families and small groups.

Patterns of production and consumption by age are compared for different communities, starting with studies by Kaplan among hunter-gatherer groups. These show striking features of the human lifecycle in hunter-gatherer groups: raising a child to maturity is very costly in terms of adult production and the elderly remain net producers throughout their lifetime. Differences in the average ages of production and consumption illustrate the strength and direction of the flow of resources. Ron showed how the strong downward flow of transfers of hunter-gatherer societies becomes less strong in agricultural societies (of the Maya, and in India and Egypt).

In the US in 2000 the net flow of transfers is still downwards but consumption is occurring at ever-older ages. This is because production (as measured by labour earnings) declines rapidly among people in their fifties and sixties whereas consumption rises with age, largely due to the use of healthcare services and pensions in old age. Modern industrial, welfare state, societies are projected to have an upward flow of resources in the future and Ron noted this may already be occurring in some parts of the world.

What lies behind these changes is a shift from investment in the young. In addition to the simple demographic transition to fewer children and more elderly people, there have also been changing attitudes leading to behavioural changes such as: falling retirement ages; more living alone and choice of privacy over co-residency amongst the elderly; and, expensive medical interventions for chronic diseases of the elderly. The transfers happen through institutions, family, the private and public sectors through mechanisms like borrowing, lending investments and transfers. Institutional changes have meant there are now massive public sector transfers.

Ron questioned whether public sector transfers redirect resources from children to adults. Major US government transfer programmes in education, pensions and healthcare (Medicare which is available to the elderly) have different age profiles in terms of their funding from taxation compared with their consumers. These show the public sector has gone from investing in the young foremost and now there are greater flows to older people. He suggests that the same analyses for European countries

would be even more striking because of their more generous welfare programmes and their older populations.

Do public transfer programmes permit the current elderly to live at the expense of today's young and tomorrow's newborn? Ron looked at which generations bear the cost and reap the benefits of public programmes in health, pensions and education. This analysis does not take account of indirect benefits such as spin-offs to the economy from public education. So which generations are hit hardest? Ron finds that, in the US, today's young (born in the 1970s and 1980s) are the biggest winners as they benefit from public education, and their children and grandchildren will continue to do so, and that today's elderly are slight losers. Their gain in healthcare and social security is not enough to offset their contribution to the set up of public education.

So what will actually happen as the population ages and health care costs rise, the number of taxpayers falls and there are more recipients of benefits? Ron discusses the financial pressures and the choices faced: whether taxes have to rise or benefits have to be cut. Since voters would be expected to choose to have more after-tax income, a reduction in benefits would be needed. Gruber and Wise found that total expenditure on the elderly was being reduced in OECD countries in real terms and budgets were not being increased. Any increase in expenditure on the elderly comes out of other expenditure, including that for the young.

Ron concludes that we have moved from societies with strong asymmetric downwards transfers to children by adults, to symmetric transfers that balance between the upward flow through public sector benefits and downward transfers within the family. Modern US society and hunter-gatherer societies both make similar investments in the young, but whereas hunter-gatherers remain producers over the lifetime, production stops at older ages in the US. Therefore Ron argues that in an ageing world, individual and social choices about work, consumption, leisure and resources for children and the elderly should be informed and considered, and should not be left to our institutions to determine. Otherwise we may be short-changing our children for the sake of a pampered old age.

In response to questions, Ron agreed that this analysis presents a partial view as many transfers are not made in money terms, and that the role of savings is an issue to consider in looking at transfers in modern industrial societies. He agreed with a comment suggesting that the findings of Gruber and Wise might change as pensioners grow as an electoral power. He pointed to forthcoming pensions reforms and agreed that it seemed likely that any increases in expenditure on the elderly would come at the expense of other expenditure. He was asked how the picture changed viewing modern industrial society as part of the world economy. Ron agreed that this is an important factor, as it was in the colonial 19th century. It begs the question: when we have an ageing west, should we invest in younger developing countries?

Alison O'Connell of the Pensions Policy Institute delivered the third plenary of the 2005 conference. She gave an erudite and articulate summary of the key pension issues facing the UK entitled *Reforming UK Pensions for Today's and Tomorrow's Older People*. Alison started by giving some of her own background; she had migrated into pensions policy following earlier sojourns in actuarial, projection and gerontological work. The significance of the topic was clear, as her next engagement

that day was to discuss similar issues at the TUC annual conference. Although Alison acknowledged that the issue was a very exciting one, she also stressed the inherent complexities and political contentiousness involved. Indeed, the Pensions Commission would be publishing a report within the next couple of months that is expected to go beyond its original remit and discuss the need for more fundamental reform. Much of the remainder of the presentation was based directly upon work conducted within the PPI over the last three years or so. In particular it articulated the major level of misunderstanding of this issue in the general population. The recent work had stressed why reform was necessary, and the possible avenues for reform that could be undertaken.

Alison described the three tiers of pension provision: the basic state pension, the state second pension (formerly SERPS) and private (occupational/personal) pensions. The latter was voluntary but encouraged via the tax relief system. The system of 'contracting out' was unique to the UK, and in effect a huge bone of contention with the state competing with the private sector. She stressed the unpopularity of means-tested pension credit to top up provision.

The backdrop of increased life expectation needed to be qualified in the context of a relatively declining state pension provision, with a current flatness (or even decline) in savings provision. Whilst, overall, tomorrow's pensioners might be poorer than today's, this broad view masked a large likely future diversity, with huge changes likely in the next half century. The structural arguments for reform are: unequal outcomes; complexity as a barrier to action; the too-high expectations of saving (in view of factors such as the high cost of child rearing); and, the unsustainable nature of state pension provision. Alison elaborated on these four themes in some detail with empirical evidence to support her argument. Broadly, it could be argued that the current system was introducing unfair inequalities that largely favour the highest earners. Moreover women, with smaller contributions to the state system as a result of taking time out to have children, were less likely to get a full state pension and were accordingly penalised.

On the issue of whether actual *poverty* existed, the difficulty was the lack of an official definition of poverty in the context of pension income. However around 20 per cent of pensioners today are 'poor', in that they have less than 60 per cent of the median pension provision, though the proportion had declined significantly under the Labour government.

The PPI felt that the current system is over-complex. Means testing is unpopular but those eligible for means testing are increasing: currently around 50 to 52 per cent of the elderly population are eligible for Pension Credit, with this level rising to 60-64 per cent by 2025. However 'take up' is currently around only 75 per cent, and rendered more difficult by the plethora of possible benefits (there are currently 23 with 36 linkages between them). Moreover there is growing uncertainty about what will be available in the next few decades, compounded by 'unknowns' such as future government policies, divorce patterns, re-marriage rates etc. Thus those aged 35-40 today will have little clue as to their likely retirement pensions.

Currently 15 million people in the UK accrue some private pension provision each year, with a further 20 million accruing no private pension, concentrated amongst low

earners. Accordingly although the Government envisaged that the state component of pensions would decline by 2050 (from 60 per cent of the total to around 40 per cent), in reality the state component may actually assume greater importance. Alison noted that whilst many employers wanted to do 'the decent thing' and increase their contributions to private provision, in reality very few could afford to do so. Moreover, living costs among younger people had risen as a result of student loans, house-price inflation and the growing costs of raising a family.

She suggested that the current state pension scheme is not sustainable; specifically that the growth of the elderly population is greater than the input of money to the state pension scheme. Accordingly whilst other countries were planning to increase their spending to compensate, in the UK a concern with fiscal prudence has led to a *de facto* state of denial about these issues.

She argued that the state pension system required simplification, and the role of the state in pension provision cried out for greater clarity. Above all there needed to be more emphasis on higher state pensions and less on (means-tested) Pension Credit. Essentially the role of the state in all of this is in effect determined by ideological factors, somewhere between the two extremes of merely alleviating poverty and alternately maintaining a good standard of living. Whilst there had been an evolving debate about pension provision going back to the 1942 Beveridge Report, opinions vary as to whether the UK should adopt a universal pension system or else a contributory system.

Working later to fill the pensions gap was one consideration, though the significance of differential worker survival across class groups had not yet been considered properly in this context. Alison argued that it was especially important to protect people 'at the edges', but that these important issues had not been well covered to date by the media.

Alison concluded by stating that in the UK we needed to review the state pension age carefully in response to increasing (though differential) longevity, whilst broadly accepting the likelihood of later working. The fact that a minority of manual workers with worse longevity might be disadvantaged by later working was not a reason to reject later working for the majority. A long 'lead time' in for this was required, with broad political consensus too. The PPIs priorities for pension reform were to: strengthen the first tier of state provision; decide on the nature and extent of the second tier (i.e. state delivery or private provision); and, enable later working for those wanting it.

Invited Paper on Cuba

As part of a visit to the United Kingdom arranged by Ludi Simpson an invited paper was given by Sonia I. Catasús Cervera, president of the Cuban Society for Population Studies and senior professor at CEDEM, Havana University.

Sonia described the demographic evolution of the Cuban population in the twentieth century, showing how Cuba was very different to other Latin American countries and other developing countries.

Sonia first mapped the evolution of several key demographic indicators (mortality and birth rates, population growth rates, etc) and framed the evolution of these measures in a historical context. Cuban 20th century history was structured in four phases: before the Great depression, during the Depression and up to the Cuban Revolution, between the revolution and the mid 1970s, and finally during the last quarter of the 20th century. Four birth cohorts (1900-05, 1930-35, 1950-55, and 1975-80) were tracked to map the demographic change.

The data indicate the following. First, each of the four historical periods has been characterised by different demographic trends, showing a strong association between socio-economic changes and demographic trends.

Second, Cuba started demographic transition before any other Latin American country. The mortality rate has been more or less constant since the 1960s. Fertility rates had been falling mostly because younger women have fewer births, slightly offset by older women increasing their birth rate. Emigration is expected to persist at roughly constant levels as a moderating effect on population growth.

Third, the Cuban population is still growing. Mortality rates and emigration are not yet compensating for birth rates and increased life expectancy. In particular, Cuban life expectancy is 4 to 5 years greater than typical values for other Latin American countries. Forecasts of demographic trends suggest that Cuban population will start to fall from 2024 onwards, reaching a peak of 11.5 million people from the current 11.2 million.

Fourth, Cuba represents another exception insofar as demographic indicators are the same as those in advanced economies. Birth rates, mortality rates, life expectancy, survival rates for children, are all in line with OECD countries. In addition, causes of death for individuals tend to mirror those of more economically advanced countries. For example, causes of death for women are typically heart, cancer, and lung diseases. Another interesting exception is the fact that there are only small variations in health indicator across the country. In the rest of Latin America such variations are much stronger.

Intergenerational Relations and Ageing

There were four papers in the first session discussing the theme of social support and mortality at older ages in completely geographical areas (Canada, Denmark, Indonesia and Germany). There is an increasing interest on the influence of social and family relations on health and mortality in later life.

Does social vulnerability predict mortality in older adults by Melissa Andrew & Arnold B. Mitnitsky (Division of Geriatric Medicine, Dalhousie University, Halifax, Canada) and presented by Melissa Andrew went through the literature on how social factors, including social support & networks, social engagement, and social capital, have been associated with health. Several authors have been proposed different frameworks to conceptualise these factors (Hepburn 2003). The study investigated the usefulness and properties of an individual SVI and its correlation with the frailty index, developed in the past. The paper used data for people aged 65 and over from two large longitudinal Canadian studies The Canadian Study of Health and Aging

(CSHA) and the National Population Health Survey. The index is constructed using variables related to social factors, including social support, community engagement, socio-economic status, leisure activities, and life satisfaction. Each response was assigned a 0-1 point value as follows: 0 if the respondent did not report the particular problem, 1 if he/she did, and intermediate values where the original variable had ordered response categories. A SVI was constructed by summing each respondent's point values and dividing by the total number of social variables to generate a proportion of social "deficits". In the CSHA (N=3716), the social vulnerability index was constructed from 39 variables. Association with survival was analyzed using logistic regression, Kaplan-Meier curves, and Cox regression.

Melissa showed how the so constructed SVI increased with increasing age and was higher in women. Additionally even after adjusting for frailty, age, sex and education, the SVI was associated with increased odds of mortality. The authors have checked through jackknife and bootstrap statistical techniques to check how sensitive the SVI is to the inclusion/exclusion of the different variables used to construct it. Melissa concluded that social vulnerability appears to be a valid construct that can readily be operationalised from questionnaire data. *Mortality after widowhood in later life:*

Short-term & long-term consequences by Domenica Rasulo, Kaare Christensen, Cecilia Tomassini was presented by Domenica Rasulo and aims to analyse the relation between the length of the bereavement period and mortality at old ages among twin pairs born in Denmark. The literature on the topic shows some inconsistencies on the length of bereavement effects and how different bereavement is associated with mortality for men and women. Some of these inconsistencies may be due to the choice of the control group that cannot completely match the population under observation. Using the co-twin control method is a useful procedure as it compares an outcome among twins using their co-twins (with whom they share early life characteristics and genes that are important to explain mortality later in life) as control group. Domenica used data from the Longitudinal Study of Ageing Danish Twins, which is a panel study carried out from 1995 to 2001 on all eligible old twins in Denmark. For this study she selected twin pairs including two-twin discordant for their marital status (widowed, married). To track the effect of widowhood on mortality risk during the study time she applied the Gompertz model. Results showed that the mortality risk increases significantly in the short period after the loss of the spouse and that this effect is especially strong for men and for monozygotic twins.

Old-age vulnerability in Indonesia: A longitudinal social network approach by Elisabeth Schröder-Butterfill revisited the concept of social vulnerability using her qualitative analysis on older people in selected areas of Indonesia. She summarised the literature regarding how elderly people in developing countries were traditionally protected by extensive family networks, even if she stressed that in recent times the role of the family may decline with progressive "modernisation". She conjectured about the generalisation of the fact that all elderly lacking of family ties are defined as vulnerable while her work shows how vulnerability is the result of the *combined* and *cumulative* effects of exposure (e.g. childlessness), threats (e.g. health crises) and coping strategies (e.g. social networks, assets), all of which are shaped by individual life histories and wider social, demographic and economic context.

Using life histories from 200 older people from a village in East Java her aims were to identify which are the individual characteristics associated with vulnerability and why. High levels of childlessness, divorce, and migration have created network discontinuities over time and left some elders with small effective networks, whilst reproductive and economic success mean others are apparently secure. She focussed

on selected older people experiencing a severe change in their family network (e.g. death of the spouse or other important social network members). She showed the importance of defining the individual “abstract” network (through kinship diagrams) that can provide an indirect measure of potential providers of support in possible crises among family members. Possible mechanisms that can be activated after the death of a family member can be summarised in *Intensification* (the surviving family members offer more support) and *Extensification* (new family members are involved in the support). Elisabeth summarised her findings showing the disadvantaged position of childless older people, of those who have not a heterogeneous network, and of those without influential members in their network. *Who cares when parents die? Changing marital histories, intergenerational ties* by Hilke Brockmann and Andreas Timm reviewed the long tradition of studies on the advantageous position of married people in terms of mortality. Different hypotheses have been proposed to explain the lower mortality of married people as for example marital selection (people with health problems are less likely to get married) and marital protection (the spouse exerts some control on risky behaviours). Hilke stressed how different is the context of marriage nowadays compared to the time when these studies started since people experience very different marital histories (they marry less often and later in life, they are more likely to divorce or separate, they cohabit with new partners, remarry). Using data from the German Socio-Economic Panel (1984-2002), Hilke and her colleague analysed how the marital and parental histories affect mortality in Germany today, through a proportional multi-level hazard model. Her findings suggest that protection through marriage and parenthood results from long-term accumulation of survival advantages and from the attenuation of higher mortality risks that occur immediately after a transition into or out of a marriage. Additionally women are more likely to keep survival advantages from previous marriages and from their children than men.

There were four papers in the second session discussing the theme of care and carers as a factor needing consideration, as there is an increasing proportion of the population who may be in need of care. *Demographic implications for palliative care provision* by Briony Eckstein & Angela Armstrong-Costa (University of Southampton) presented ideas from discussions around how palliative care provision will need to change with the advent of an ageing population. The paper considered how and if palliative care provision to the terminally ill and dying can continue at the current level and what constraints there would be on maintaining the current level of palliative care. Many ideas were presented but one final answer was not agreed. The main constraint to continuing levels of care was that of funding – as the population over 65 and over 85 increases would funding be diverted to the NHS to take account of this? Staff costs and time was perceived to be the biggest influence on what care could be provided. Several extreme suggestions were made as to how this limited resource may have to be used in the future:

- 1) Many long-term care wards for the sickest individuals so that care could be concentrated in one place – no option for the terminally ill to be cared for in their own home;
- 2) Reduce care so only certain groups e.g. terminally ill, those with key disease or from certain age groups to receive care
- 3) Restrict care – those who had not taken care to preserve health before e.g. smokers or heavy drinkers not to receive care

- 4) Stop providing palliative care at the state level and let the responsibility lie with those who are ill and their families

Questions asked included on who and how those in need of palliative care would be determined – including what age groups? Would increasing healthy life expectancy among the older generation free up money for palliative care? What role will informal carers play in the future? *The dynamics of social care* by Jane Falkingham and Maria Evandrou (University of Southampton) aimed to examine the factors associated with starting and ceasing receiving social care, where social care was either having a local authority home help, receiving meals on wheel or seeing a health visitor, social worker or chiropodist. The study uses data from the British Household Panel Survey to investigate factors associated with making the transition into receipt of social care and predictors associated with continued receipt of care. The hypothesis was that starting to receive social care is associated with a change in an individual's characteristics (e.g. their health), a change in their living arrangements (e.g. death of a spouse) or a change in their spouse's characteristics. A dataset was constructed using the BHPS to investigate this as entry and exit in the use of social cares service was possible using the panel data. Initial conclusions suggested that different factors are associated with the receipt of social care for men and for women.

Suggestions included:

- 1) Adding a geographic dimension to the analysis as the type and style of social service availability differs by county council.
- 2) Investigating the proximity of family (if the data allows it) and also assessing the role of a family member as an advocate whom would push for the receipt of services for their spouse/parent/etc.
- 3) Also looking at income of individuals of their family as some private care could be being received not capture elsewhere

Informal care at working age: effects of job characteristics and family configuration by Ursula Henz (London School of Economics) uses data from the 1994-5 British Family and Working Life Survey (FWL) to examine the impact of various personal and job circumstances on the propensity of providing informal care and on the consequences of care giving for carer's employment. Two research questions were asked.

1. Is lower attachment to the labour market a precondition of caring or a result of caregiving?
2. Does job flexibility matter for who takes up caring, and for the consequences of caring?

Conclusions were that:

- Lower labour market attachment of British cares is a result of caring (for women)
- Job flexibility and part-time work play little role
- Women in manual occupations are more likely to leave the labour market
- Nuclear family plays a key role in both parts of the caring -employment process

Questions asked confirmed that the relationship between the carer and caregiver cannot be determined with this data, but that the proportions caring are much different

to that in the GHS with the GHS picking up more instances of caring, but the FWL survey identifying more intensive episodes of caring. *Who becomes an informal caregiver? A lifecourse perspective* by Harriet Young and Emily Grundy, (London School of Hygiene and Tropical Medicine) uses data from the ONS Longitudinal studies to track the life histories of carers and non-carers, focussing on differential marital status, fertility histories, employment histories and socio-economic status. Data from the LS has now become a useful source of information on caring as an informal caring question was included on the 2001 Census asking if each person cared for anyone for 0, 1-19 or 20+ hours a week.

Data presented was that for those caring 20 or more hours per week and was restricted to those present at the 1981, 1991 and 2001 Census' and those enumerated at their usual point of residence and not living in a communal establishment.

Key conclusions were:

- Men and women are less likely to provide care if widowed or divorced
- Men more likely to provide care if single and a history of little employment
- Women most likely to provide care if little employment
- Similar likelihood if history of most and intermediate employment
- For women, who have worked, increased likelihood of caregiving later if history of:
 - Working in the public sector
 - Having worked in caregiving career
 - History of low attachment to the labour force

Questions raised included those on the choice of 20+ hours as number of hours of care which is a substantial period of caring, however this is because of the times set in the Census question. 20+ hours of care was chosen because it was the group of people providing intensive care rather than more infrequent non-essential care. The type of care provided was also of interest but again this was not asked in the Census.

The first paper in the third session, on economics and health in ageing populations, was presented by Hilke Brockmann and investigated the implications of an ageing population on hospital expenses in Germany. Hilke's hospital costs forecast model has identified increasing health care costs that highlight potential problems for the German welfare state. The increasing costs are largely attributable to an ageing population that could put pressure on German fiscal policy over the next 45 to 50 years.

Hilke's hospital costs forecast model consists of three key components:

- 1) A stochastic forecast of ageing population;
- 2) A stochastic hospital cost component;
- 3) A quality measure of medical progress.

Human mortality data, longitudinal individual claim files and official hospital statistics ('93-'99) are used to develop the stochastic demographic component of the model. Disease specific hospital costs for both deceased and surviving patients form the stochastic hospital cost component of the model. The final component of the model is a quality measure of medical progress. An empirical source of this quality

measure is provided by data on the number of days spent in hospitals per 10,000 patients. These rates (days spent in hospital/10,000 patients) are categorised by age, gender and disease so as to provide specific rates for different groups of patients. A decreasing rate is assumed to indicate medical progress.

The model provides three different results:

Result 1 is that hospital costs rise until 2040 as a result of the ageing population. Costs will then fall as the German baby boomers die out.

Result 2 is that the increase in hospital costs is fairly moderate as the average cost of treating each patient falls. The average cost is assumed to fall as health amongst the elderly improves.

Result 3 is that hospital costs vary significantly between different groups of patients. Hilke points to the example where the relative cost of treating male patients will rise higher than those for females. The curing of circulatory diseases is forecast to cost more (per capita) for males than for females until 2065. Treatment of cancer was highlighted as one of the diseases where cost per capita is forecast as fairly constant until 2065.

The concluding questions session asked whether the model had taken into account a “fashion effect” for using new technology, for example where new technology was purchased for reasons other than maximising efficiency. Hilke responded by saying that this “fashion effect” would inherently be represented by the data (should it exist) however there would be no way of controlling for such an effect.

The second question asked of the model was whether community care had been taken into account. Hilke said that the model had not considered community care and that this would be an area for future research.

The second presentation of the session, by Maria Letizia Tanturri, focused on children and the standard of living in old age, with particular reference to the case in Italy. Specifically the research focused on who was better off in old age: parents; or, ‘non-parents’.

It has only recently been possible to undertake this research due to the lack of availability of appropriate data. The Bank of Italy’s survey on Household Income and Wealth (SHIW) 2000 and 2002 is used to explore the relationship between the economic conditions of the elderly and a range of variables such as past fertility, marital status and living arrangements.

Analysis using the SHIW data found that for the elderly who have had children that are no longer living with them; there was no clear impact on their current economic status. Some elderly parents were found to have fewer assets; this was attributable to the Italian culture where there is a downward flow of wealth between parents and children. The research found that where there were co-residing (adult) children living with elderly parents there was a negative impact on the economic status of the elderly parents. The extent of this impact was found to be region-determinant. Elderly residents in the South of Italy with (adult) children were found to have a worse economic status than their North Italy counterparts. This is attributable to the socio-

economic characteristics of the two regions; the South of Italy is associated with lower levels of education, more people living alone and a lower proportion of males living in households. Conversely North Italy tends to have higher levels of education and a higher proportion of males in households. These factors combined mean that earnings tend to be higher in the North of Italy, thus there is a smaller financial burden on elderly with co-residing (adult) children in Northern Italy.

Economists suggest that the Italian welfare system gives too much to the elderly and not enough to the young. Altering the welfare system (in favour of the young) would help children, thus placing less of a financial burden on the elderly; of course this would also have the direct effect of making the elderly worse off through lower payments through the welfare system.

A query at the questions session rose whether longitudinal data could be used to assess the impact of changes to the welfare system, i.e. lower pension provisions in place of higher unemployment benefits. The SHIW is cross sectional data, but is collected once every two years meaning that longitudinal data could be used to assess the impact of a change in the welfare system. As an aside it was noted that 80-90% of the elderly's income is comprised of pension payments. This suggests the need for a change to an upward flow of wealth (child to parent) should pension provisions be cut to fund higher unemployment benefits.

The final presentation of the session by Judith Shapiro focused on measuring unhealthy life expectancy at age 65 across time and space. The presentation focused on the European Community Household Panel (ECHP) survey and how this data is used to derive disability-free life expectancies across Europe. The ECHP is an annual survey undertaken by Eurostat from 1994 to 2001 and includes EU member states. The number of countries included in the survey has increased since 1994 in line with EU expansion. The ECHP is meant to provide a harmonised and comparable measure of health across EU countries. Judith commented that in reality the level of harmonisation across member states was often lacking as individual national data units (NDUs) have some autonomy over how survey respondents are questioned.

Data from 8 years of ECHP surveys, Eurobarometer 58.2 (Health & Developing countries 2002) and preliminary data from the share50+ are used to assess the comparability and value of the new disability-free life expectancy rates produced from the ECHP. Analysis shows that health and life expectancy indicators derived from the ECHP are comparable across EU member states in some respects. However, there are significant comparability problems due to the under-reporting of mortality and lack of harmonisation across NDUs, especially with respect to key health questions.

The ECHP is not due to continue in its current form; rather it will form part of a wider EU survey. There are concerns over the likely level of detail available in the future due to statistical disclosure control. For example, it is planned to top-code respondent's age at 80+. This implies future limitations on the extent of analysis possible on the 65+ age cohort.

The final session of the strand, on intergenerational relationships at older ages, began with Romina Fraboni examining intergenerational care-giving in the Italian context, in the paper *Intergenerational relations and support in Italy* with colleagues from

ISTAT. The work used household survey data from 1983, 1998 and 2003 to provided detailed information on kinship networks and types of help given and received. Since the population of care-givers is ageing like the rest of the population, the paper focussed on those aged 55+.

A regression model showed that those most likely to give care at age 55+ were female, highly educated, either retired or looking after the home, married or widowed, living near 1 or 2 family members and with no health problems themselves. Those with large networks of associates themselves were more likely to give care than the more isolated. Six distinct groups of care-givers were identified by a cluster analysis, including those volunteering to help others outside the family, grandparents providing childcare for grandchildren and those providing multiple types of help to parents and parents-in-law. Romina discussed possible future issues such as whether the older generation will be able to take advantage of a similar welfare system in future and thus be able to assist with care of grandchildren as many do today.

The focus then shifted to Indonesia, as Philip Kreager (University of Oxford) presented some findings from long-term research in three areas of Java and Sumatra, in a paper entitled *Ageing and daughter preference: comparative perspectives from Indonesia*. Fieldwork has been in progress since 1998 using both qualitative and quantitative methods to investigate the kin relationships in three communities. The Minangkabau in Sumatra are matrilineal and those without a daughter are considered childless, but there is no issue with missing sons (in contrast to the missing daughters apparent in some patriarchal societies). In contrast, the Javanese have a nuclear family system but no designated child to care for parents unlike in some communities.

Philip presented some interesting case studies of kin networks and who was actually caring for the older generations – which included not just daughters, but nieces, granddaughters, adopted children and neighbours – and was linked to who was actually available, particularly as many adult children would have out-migrated to find work. In the matrilineal community, the small proportion of older people without any daughters or nieces could be in a vulnerable position. In the patrilineal system, both sons and daughters may look after the elderly. Care was more usually undertaken by daughters but this practice does not necessarily indicate daughter preference.

Closer to home, Rachel Stuchbury presented some joint work with Karen Glaser, Cecilia Tomassini and Janet Askham that is examining the long-term *Relationship between disruption in family (and work) life and social support at older ages in the United Kingdom*. Using data from waves 1-13 of the BHPS, the research concentrates on people aged over 50 in the UK and identifies whether they had ever experienced a separation, repartnering or living with a stepchild. Their social support networks are then defined in terms of contact with friends, contact with and help from children and use of formal social services. Various models examine the relationships between these two sets of variables.

The work so far has shown that past separation has a negative effect on social networks but widowhood is not a disadvantage in this respect. Having stepchildren is negatively associated with receiving help from children. The number and sex of any children is associated with help from children but not related to the frequency of non-family contacts or formal social support. Finally, social support from others is higher

among those with a current partner irrespective of family history. Overall, the findings show that the high incidence of divorce and living with stepchildren among those of working age is likely to have implications for their social support when they reach older ages.

Evolutionary Demography

The year's Evolutionary Demography strand opened with 3 papers which all touched on the Conference theme of Intergenerational Transfers. Mhairi Gibson from University College London began with a paper detailing the effects of kin on childhood mortality and nutritional status in Ethiopia. She found that while maternal grandmothers improved child survival rates, they were associated with lower nutritional status. Unusually for such a study, she also collected time budget data that allowed her to investigate precisely what relatives do when they visit one another, finding that maternal kin appear to be helping women out with domestic tasks, while paternal kin concentrate on agricultural work. Samuel Pavard followed this with a paper modelling the effect of maternal care on the evolution of human life history. The results showed that features characteristic of human female life history, such as menopause, might be explained by an increase in maternal care. Virpi Lummaa was the final speaker in the session, and presented a paper reviewing work investigating reproductive effort in a historical Finnish dataset. This research found clear evidence that reproduction was costly: mothers who had given birth to twins or to many sons had reduced post-reproductive survival. This mortality increase was largely due to an increase in infectious disease deaths, suggesting reproduction reduces immunocompetence.

The second session was a diverse session that started with intergenerational transfers and ended with religion. Jan Beise presented a review of how evolutionary biologists view intergenerational transfers, including literature on both human and non-human species. David Lawson then presented a paper on divorce. He first introduced an evolutionary model of marriage and used this to generate predictions about the effect of parental marital disruption, which he then tested using the National Child Development Study. These analyses revealed that parental marital disruption resulted in children reproducing early and rapidly in their subsequent adult lives. David Voas ended the session with a paper on gender and religiosity. He used the European Social Survey to demonstrate an apparently universal female bias in religiosity, and proposed a variety of hypotheses to explain this observation.

The final session began with Rebecca Sear presenting work investigating the relationship between size, health and adult mortality in the Gambia. Health and nutritional status (as measured by haemoglobin level and BMI) are broadly positively correlated with survival rate in both sexes. The relationship between height and mortality differs between the sexes, however. For women, the relationship is U-shaped, with both tall and short women suffering higher mortality. For men, there is no relationship. Sarah Johns then described her work examining teenage pregnancy in Gloucestershire. She found that teenage pregnancy is associated with negative perceptions of the environment, so that women who see their environments as risky are more likely to have teenage births than those who have more positive views of their surroundings. She also suggested perception of environmental conditions may be a better predictor of teenage pregnancy than neighbourhood level economic

indicators. Ruth Mace ended the strand with a paper on fertility in Addis Ababa. She and her co-author, Eshetu Gurm, have observed remarkably low fertility in the Ethiopian capital, and suggest that poverty is at the root of this fertility decline. High levels of poverty (and low levels of kin support) mean that many women do not have the resources to have children, so choose to postpone or forgo reproduction.

Families and Households

This short session consisted of two papers. Tak Wing Chan (Oxford University) discussed his joint paper (with Brendan Halpin, Limerick University) on the risks factors leading to divorce in the UK. Tak and Brendan had looked at the changes in driving factors of divorces in the UK between 1960 and 1989. Three factors attracted their attention in particular: educational attainment pre-marital cohabitation, spouse previous marital status. To observe these effects Tak and Brendan developed a pooled dataset based on the GHS series from 1979 to 2000. The analysis of this dataset had a number of challenges, in particular circular effects. For example, couples that enter into a marriage today may place more value on marriage compared to those of unmarried couples. If the couples that cohabited first then marry, it is possible that they may be less reluctant to break the marriage compared to those who did not cohabited before the wedding.

By using cohort and survival analysis, four important results were obtained:

- 1) Marriages at later age reduce divorce risks. Tak and Brendan observed an interaction effect between cohort factors – when the marriage was undertaken – and the age at marriage.
- 2) Previous divorces or cohabitation increase divorce risk. However, the data shows that this factor has considerably weakened over time.
- 3) Having a degree reduces divorce risks. This is a reversal of previous findings, which showed an increased divorce risk for the higher educated.
- 4) For the latest period, it appears that having children increases divorce risk. As with educational achievement, this was an inversion of the previous relationship, known for 40 years, that children stabilise marriage. Furthermore, the result is at odds with the USA experience.

To investigate further controlling for pre-marital birth refined the model. They observed that there was still a change, meaning that having children went from reducing the chances of divorce to being merely neutral.

Tak and Brendan interpreted the effect of pre-marital birth as a proxy for socio-economic status. Mothers from socio-economic groups with low educational and professional achievement are nowadays far more likely to give birth out of wedlock and to be young. Married couples in these socio-economic groups are less likely to have sustainable marriages for several reasons. Furthermore, the barriers to divorce (administrative, economical and social) have become lower, so that these couples are less reluctant to divorce in the first place. In contrast, couples with higher educational achievement tend to marry later, and to delay having children.

The second paper was introduced by Francesca Fiori of Universita' La Sapienza, Rome. Together with two other researchers from the same department, she investigated whether there were significant differences between consensual couples and married couples in terms of their gender roles. In particular, they wanted to see if couples with an egalitarian approach – with both male and female sharing tasks and

duties – were more likely to be in a consensual union rather than one based on marriage.

Francesca and her co-researchers used data from the ECHP for year 2000/01. They selected a sub sample from 15 countries, targeting couples with individuals younger than 50 years old. The team of researcher adopted this restriction because in Southern Europe very few consensual couples exist among older people. They presence of dependent children was controlled for in the study as in their sample the proportion of families with dependent children was similar for consensual and married couples. Francesca and her co-researchers modelled the chances of being in either a consensual or a married couple. They considered the effect of whether the couple had an egalitarian approach on household roles and tasks. They also controlled for factors such as: women's age and education; men income; couple difference in age, education, employment status and work satisfaction; free time and social contacts outside the relationship; women doing household activities, if at all; geography (whether the couple lived in Northern, Western, or Southern Europe. They observed that living in Southern Europe reduced the chance of co-habitation, as did age and age difference, where the man is older or have the same age as the woman. In contrast, higher educational and male income levels increase the chances of cohabitation, as did income inequality. Separate models within geographical areas were also developed (Northern, Western, and Southern Europe; Great Britain; Italy; Northern Italy). Francesca and her colleagues found interesting variations between geographical areas. Some factors become significant, whereas others were no longer relevant. On the other hand, age seem to be a common factor across geographical area, although in Southern Europe age seemed to have a more moderate effect than anywhere else. Another result of interest was that in Italy co-habitation appeared to be leading to marriage, rather than being an alternative life-style.

Fertility

The first session of the fertility strand opened with a paper entitled *Fertility transition in Kenya: A regional analysis of proximate determinants* by Ekisa Anyara & Andrew Hinde of the University of Southampton, presented by Ekisa, The study aimed to demonstrate the extent of regional variation in fertility decline in Kenya and to determine the potential role of proximate determinants in explaining regional patterns of fertility in Kenya since the 1980s. Using the Kenya Demographic and Health survey data from 1989, 1993, 1998 and 2003, a modified version of the Bongaarts proximate determinants model was applied to investigate these questions. It was noted that induced abortion analysis is not included in the study. The study was not complete but a number of conclusions had been drawn so far. Kenya's fertility has declined by 37 per cent since 1978. Pastoral regions show gains in fertility. Low fertility in two urban regions appears to be partly a function of marital patterns. Low fertility in some rural regions tends to be explained by contraception and the effect of sterility due to all causes is increasing considerably, especially in regions with low fertility. The effect of postpartum non-susceptibility is highest in regions that are not urban. Kenya's fertility decline appears to have been driven by other factors and also by contraception as far the current analysis of the proximate determinants is concerned. Questions asked included what adjustments were made to the index of marital fertility to take account of non-marital fertility and how does sterility relate to the presence of HIV/AIDS. Births outside marriage were not taken account of in the

analysis. The index of sterility was stronger in urban areas where there is greater prevalence of HIV/AIDS but it cannot be assumed these factors are linked.

The second paper in the session was given by Sarah Walters (now at Cambridge Group for the History of Population and Social Structure, University of Cambridge), who jointly won the BSPS prize this year for the best masters dissertation, and was entitled *Historical Demography in Tanzania (1920-61)*. The aim of this paper was to show that with improved techniques and an accumulation of datasets demographers may now be in a better position to quantify historical demographic trends. The example of Tanzania was used. A series of censuses and demographic surveys from Tanzania (1948-1999) was used to model trends in fertility and child mortality during the period of British rule (1920-1961). This was done in three stages:

1. Create stable population model of age distribution 1948 and 1957 to obtain women in 5-year age groups (break down broad 16-45 group).
2. Calculate children ever born to women in these age groups by reconstructing spread and level of the fertility distribution 1948 and 1957.
3. Calculate children surviving by fitting relational model life tables adjusted to fit total recorded figures of proportions of children dying. Apply adjusted indirect techniques to estimate trend over time in child mortality.

The study found that fertility was rising from the 1940s to the 1970s. Child mortality was level from the 1920s to the 1940s, when it began a steady decline. In response to questions about the availability of vaccinations data for children, decreasing infant mortality, and data about spacing children Sarah said there is no quantitative data available on child spacing at this time but anthropological qualitative data does exist. There is no data available on vaccinations either. There are records in Tanzania for children with polio and TB in the 1950s but no linked data.

The final presentation in the session was presented by Paul Boyle, the new vice president of BSPS, and Elspeth Graham entitled *Fertility variations in Scotland 1981-2001: are there local cultures of fertility?* (co-authored with Zhiqiang Feng, all of the University of St Andrews). This paper uses vital registration and census data to investigate the hypothesis that there are local cultures of fertility in Scotland. Where local cultures of fertility are defined as a set of attitudes and norms relating to partnering and childbirth held by population groups in particular areas or geographical contexts. The study is ecological, using small area data for three time periods; it models geographical variations of fertility over this time. Key findings included that, controlling for variables available from the census, there are still significant clusters of high or low fertility in all three periods. By 2001 this was much more focussed on the inner city and; this is even when full-time students are accounted for (except in Dundee).

Paul reported that the study's results are consistent with the hypothesis that there are *local cultures of fertility* in Scotland. However, whether fertility clusters represent local fertility remains an open question and requires further work into: spatial variations in attitudes and norms; population sorting (gentrification and peri-urbanisation); and, house prices and the local economy. It was suggested from audience that de-urbanisation of the cities and also looking at housing costs would provide fruitful further analysis.

The first presentation in the second session was entitled 'An explanation of the positive cross-country correlation between fertility and female employment among Western European countries', presented by Tomas Kogel of Loughborough University. During the 1970s analysis of international data showed a negative relationship between fertility and female employment. By 1996 the relationship had reversed, an unexpected result. Tomas's research investigated whether this change was due to bias in the correlation caused by the omission of a number of variables, such as: postponement of childbearing; high childcare use outside the home; and, long term female unemployment. When these variables were included in the analysis of the relationship, the correlation between fertility and female employment became negative and significant. Tomas concluded that female employment is still negatively correlated with fertility and that greater childcare provision and a reduction in long-term female unemployment would be the way forward to increase fertility rates.

The second paper, 'Early motherhood in the UK: Micro and macro determinants', was co-authored by Denise Hawkes and Heather Joshi from the Institute of Education, and presented by Denise. The data used in this paper is from the Millennium Cohort Study at the 9-month stage, although further sweeps are planned for this year and in 2007. The analysis focuses on the persistent minority of teenagers who enter motherhood and the circumstances that lead to them becoming mothers, in particular the relationship between early motherhood and employment. Various models for the age of mothers have been tested. No difference was found between the white, black and other ethnic groups but Asians have a lower age of motherhood, mostly in the Pakistani and Bangladeshi groups. National unemployment levels were found to have a significant negative effect on the age of motherhood. Overall the main conclusion was that earlier entry to motherhood is associated with both the mother's background and unemployment.

Adele Menniniti then presented the paper 'Fertility preferences and intentions: Some results from an Italian survey' co-authored by herself and Maura Misiti, both from the Institute for Population Research and Social Policies. The survey had a sample size of 1,500 with 1,000 respondents to 2 interviews and aimed to create a better understanding of Italian fertility, through collection of data on fertility intentions, characteristics and subsequent behaviour following the first interview. Women were asked a long-term question of how many children they would like in total and a short term question of whether they intended to have a child within the next 2 years. The majority of respondents (69%) were consistent between the two interviews in not intending to have children within 2 years at the first, and not having had a child by the second. Age, working position, number of children and marital status and duration seem to be determining factors in maintaining or modifying reproductive strategy.

The final presentation was given by Jessica Chamberlain from ONS and was entitled 'Current trends and issues in British fertility analysis'. The paper examines some current trends in fertility and outlines the current work and future plans of the ONS Fertility Analysis Unit. The Total Fertility Rate (TFR) reached a record low of 1.63 in 2001, but since then the TFR has been increasing. Trends in cohort fertility have seen a decline in family size, increased mean age at first birth and an increase in childless women. The recent increase in the TFR has taken place across the country by varying degrees and across women of all ages, with the largest rises to women in their 30s. Another interesting recent change had been a rise in the proportion of children born to

women who were born abroad, rising from around 12 per cent to just under 20 per cent between 1994 and 2004. Jessica then spoke about planned work in the Fertility Analysis Unit. The first project was to look at the relationship between fertility and migration. Data on female international migrants can be obtained from the General Household Survey and be used to investigate a disruption hypothesis, looking at the changes in fertility caused by different types of migration. The second project was to carry out a more detailed examination of sub-national fertility trends.

Health Inequalities

This year's BSPS conference saw an exciting and engaging mix of presentations based around the strand theme of health inequalities. This strand was well attended and stimulated some interesting discussion. A total of five papers were presented over two sessions that were well attended, and stimulated interesting discussion. The key findings of the authors are summarized in this report.

The first session, chaired by Tiziana Leone (Institute of Education, University of London) contained three papers.

Kath Moser ONS (recently moved from LSHTM) and David Leon (London School of Hygiene and Tropical Medicine) presented a paper entitled *Comparing health inequalities across time and place: An analysis of demographic and health survey data*. Kath Moser gave a thought-provoking talk about the methodological issues of comparing health inequality longitudinally and internationally. Demographic and health survey (DHS) data from 22 countries were used to assess under 5 mortality inequalities. Two methodological approaches were undertaken: (1) rate ratio that is a measure of relative inequality and (2) rate difference that is a measure of absolute inequality. The results highlighted the difficulties with this type of approach as the rate ratios and rate differences produced inconsistent inequality trends. The authors concluded that it is important that both relative and absolute measures are used and that the methodology is explicitly explained in order for international and longitudinal comparisons to be made.

In the second paper of the first session, Paula Griffiths (Loughborough University) (with contributions from Noël Cameron, Loughborough University, Shane Norris and John Pettifor, University of Witwatersrand, South Africa) presented an interesting paper on *which aspects of socio-economic status (SES) at birth and nine years are most associated with child nutritional status at the end of childhood*. Regression analysis of data from the Birth to Twenty (Bt20) study set in South Africa was undertaken. Measures of SES that were taken at nine years predicted body composition outcomes at the end of childhood more strongly than those taken at birth. The findings of this study are not consistent with other studies that have looked at socio-economic status and adult body composition outcomes. These previous studies have shown that SES measures at birth were stronger predictors of adult health outcomes compared to measures taken in adulthood. However, this may reflect a lack of data that assesses SES at the end of childhood, thus the authors of this study suggest that SES in childhood is a better predictor of childhood body composition than SES at birth.

Fiifi Amoako Jackson (University of Southampton) presented the final paper of the first session (co-authored with James Brown and Sabu Padmadas, also of the University of Southampton). Fiifi discussed his paper on *spatial inequality in delivery care uptake in Ghana: a multilevel analysis* that aimed to investigate the variations both within and across communities in the use of delivery care services. Maternal death and poor neonatal outcomes have been associated with a lack of skilled attendants at delivery. Logistic regression models were applied to over 5000 mothers who gave birth between 1993 and 2003 within Ghana. Significant urban/rural differences were found, with the greatest heterogeneity of delivery care found within rural communities. Rural mothers were more likely to deliver at home without a skilled attendant, typically because of a lack of access to institutions and thus skilled attendants. Within the urban communities, there was deterioration in public sector delivery care, particularly within already poor areas. Overall, the authors of this paper show that there are clustering effects with regard to the utilisation of delivery care services in both rural and urban areas of Ghana.

The second session was chaired by Paula Griffiths (Loughborough University) and contained two papers. The first paper was presented by Amos Channon (University of Southampton); *calculating low birth weight (LBW) from DHS – can mother's help improve estimation?* Within developing countries, a large proportion of infants are not weighed at birth, thus there is a clear deficit in data, even from demographic and health surveys. It was therefore anticipated that there was potential to use maternal perception as a proxy for birth weight, in order to calculate the proportion of LBW infants. Using DHS data from 13 countries, logistic regression modelling was undertaken to determine which factors were significant in predicting the proportion of LBW infants. The results showed that it is not appropriate to use maternal perception as a predictor of the proportion of LBW infants, due to the number of infants that are misclassified into inappropriate size categories.

The final paper of the health inequalities strand was presented by Sarah Hall, (University of Southampton) on *neonatal mortality in developing countries: what can we learn from DHS data?* This paper explored whether DHS data could help to increase knowledge of neonatal mortality trends in developing countries. In addition, it looked at the relationship between neonatal mortality and gross domestic product (GDP) at a national level. The results showed that there is a marked difference in the relationship between GDP and neonatal deaths and post-neonatal infant and childhood deaths. This study highlighted that there are potential problems with using DHS data to track neonatal mortality. For example, there are incentives to report neonatal deaths as stillbirths, as a neonatal death would lead to an investigation. There are also sampling issues in that mothers are sampled, therefore, if they die during delivery there is a significant increase in the likelihood of the neonate dying, yet this is not reported within the data. Overall, this paper identified the need for further research into the factors that underlie the poor progress in reducing neonatal mortality in developing countries.

Historical Demography

There was a small but select band of Historical Demographers at this year's conference, and there was some discussion around the dinner table as to why numbers should have been so low, particularly as there were additional papers to appeal to

those of an historical bent in other strands, such as Sarah Walters' paper on Kenya and that of Nikolas Mostratos' on Greece. (Answers on a postcard please...!)

The papers in the two dedicated Historical sessions focused predominantly on Britain in the nineteenth century. Sam Sneddon (Nottingham) began by presenting a paper on *infant mortality in the Fenland counties of Cambridgeshire, Lincolnshire and Norfolk*. These predominantly rural counties suffered, in the mid nineteenth century, from rates of infant mortality reminiscent of insalubrious urban centres. Using registration district level data she was able to show that the high rates were mainly to be found in 'Fenland' Districts; that there was a 'Fenland penalty' akin to the 'urban penalty'. Moving to a finer level of detail, Sneddon went on to categorise the sub-registration districts of Lincolnshire into 'Fen' and 'Non-Fen' and then subdivide these into 'urban' and 'rural' groups. She was able to demonstrate that while there was a difference in IMRs between fen and non-fen districts, there was an even greater difference between the 'urban' and 'rural' districts within 'Fenland'.

Alice Reid (Cambridge) also considered an *infant mortality 'penalty'*; that suffered by illegitimate children when compared to legitimate. Her study of children on the Isle of Skye in the latter half of the nineteenth century sought to elucidate why illegitimate children were more at risk. Using linked census and civil registration data to allow hazards analysis; she showed that while illegitimate children were almost 50 per cent more likely overall to die in the first year of life than legitimate children, they were particularly vulnerable in periods of economic crisis. This, Reid argued, would appear to be related to the greater propensity of single mothers to leave their offspring in the care of others, particularly grandparents, during times of hardship while they themselves migrated to find employment in order to stave off destitution.

Migration was a theme that re-emerged in the final paper of the first session. Eilidh Garrett (Cambridge) looked at *the seasonality of birth, and conception, on Skye and in the town of Kilmarnock during the 1861-1901 period*. The seasonal patterns for Skye was shaped very much like that found by Wrigley and Schofield for England and Wales, 1540-99, with a marked winter peak, whereas that for Kilmarnock was almost identical to the far more evenly spread pattern which characterized England and Wales in the early nineteenth century. By using the information contained in the vital registers from her study communities on who registered each event, Garrett was able to demonstrate that fathers on Skye were far less likely to register the birth of a child in the months of June, July and August. In these months, she argued, the men were fishing, or working on the mainland and therefore were not present to conceive further children leading to the marked seasonality in births observed on Skye.

The second session in the strand was set off to an excellent start by Christine Jones (Essex) who introduced the *Victorian Panel Survey (VPS)* and reported on a pilot project exploring the feasibility of creating a 'longitudinal household survey' for the 1851-1901 era, given the data and digital resources predicted to come on-stream over the next few years. Jones examined two of the problems to be faced in such an undertaking: how to deal with missing data and how to draw a sample which, with 'observation' and 'refreshment' rules, would allow the VPS sample to remain broadly representative of the British population over the 1851-1901 period. She then talked the audience through the network of links necessary to build up a history of the inhabitants of an original 1851 household across the following half century. In

conclusion she stated that experience in the pilot suggested that there would not be one, single VPS but several versions targeted at different user groups.

Andrea Armstrong (Newcastle) had a very long time frame to her *study of migration into the East Riding of Yorkshire*: 'from the nineteenth century to 2003'. She had used a longitudinal, biographical approach coupled with family histories to chart population movements into and out of parishes of Warter and Huggate in the Yorkshire Wolds, and to glean insight into the reasons behind the decisions to migrate. Data from the 1881 census had also been used. In the nineteenth century the main reason for moves into the two parishes were tied to employment and the ebbs and flows of the wider economy. However by the late twentieth century life style changes appeared to be the dominant reason attracting migrants to this part of East Yorkshire.

The session was rounded off by a second presentation from Sam Sneddon (Nottingham). Her paper was a *fascinating insight into the history of the epidemic form of poliomyelitis, or 'infantile paralysis'*. The disease was endemic across the globe by 1880, but then gained momentum with increasing numbers of epidemic outbreaks over the next four decades. It was in the years post World War II, however that the epidemiology changed and polio became a major health problem. In England and Wales it spread to 'almost every town and city in the urban system'. Sneddon was able to map the incidence of the disease and those places particularly prone to epidemic outbreaks. The disease carried the stigma of being transmitted by the oral-faecal route and this encouraged the audience to lively discussion as to why Barrow-in-Furness should have been particularly badly hit by this scourge.

Members of the strand were very complimentary about both the meeting facilities and the accommodation provided by the University of Kent, and we would like to express our thanks to the organizers for all their hard work in putting together a very enjoyable and smooth-running conference.

Local Government, Subnational and Census Issues

This strand covered four sessions. Sub-national 1 was chaired by Eileen Howes of the Greater London Authority and covered the 2001 Census SARS, proposals from ONS and GROS for the 2011 census and the ONS small area population estimates project.

Paul Williamson, University of Liverpool, looked at the *planned 5% sub-district Sample of Anonymised Census Records* and their potential to estimate previously unknown multi-way relationships. He assessed the reliability of estimates derived from this source, and compared it to the reliability of equivalent estimates derived through two alternative methods, one of which is currently used by a consortia of regional and local governments in Australia.

Peter Benton, Office for National Statistics, outlined *ONS thoughts on the 2011 Census in England & Wales and gave an update on progress*. ONS are now in the process of finalising the detailed operational design to take into the 2007 Census test, collating responses to our recent consultation on the content of the 2011 Census questionnaire and starting work on the output strategy. Peter outlined the plans and the timetable for all these strands including how the local, authorities are expected.

Ian Maté, General Register Office Scotland, then outlined *plans for the 2011 Census in Scotland*. In contrast to ONS it is planned to have a traditional enumerator-centred fieldwork with a local postback option. There is expected to be less difference once the forms get into the processing hall. Ian highlighted what GROS considered were the main problems in 2001 and the response to them. This includes contingency arrangements for enumerator collection, in-house pay systems, changes in the pay rewards, combined with a strong programme of community involvement over the next 5 years. Ian also showed the imaginative new questions that are being investigated and tested.

Andy Bates, Office for National Statistics, reviewed the *small area population estimates project in England & Wales*. He covered the datasets and methods that were investigated and showed how a final set of data and methods were selected and used to create the mid-2001 and mid-2002 ward population estimates that were released as experimental statistics earlier in the year. Andy looked at case studies of some of the more challenging wards for which estimates were produced and covered the responses received as part of this user consultation on the experimental statistics.

Cheng Yong Lee, Kent County Council chaired a Special Session with three presentations which covered practical approaches to local governance. First on English Local Public Service Agreement in Kent; then methods on how to predict number of potential older clients for Social Care; and by contrast how to prioritise services in hard to reach rural communities in Nepal.

The setting of Local Public Service Agreement Targets by Nick Moon (Kent County Council). The second generation Local Public Service Agreement (LPSA) between Kent County Council (KCC) and central government required the use of demographic data in the process of negotiation and the setting of “stretching” performance targets in public service delivery. Decisions on which service, and, the level of “stretch” are voluntary.

In Kent, one target is to reduce the number of long-term Incapacity Benefit customers who are not in work. This target was underpinned by research data supplied by the Social Disadvantage Research Centre at Oxford University and the Department of Work and Pensions. To monitor improvements, a wide variety of data, including that collected by partner agencies is required. This required agreements and collaboration of agencies such as Jobcentre Plus, the NHS and a variety of agencies in the public, private and voluntary sectors. Only with this joined-up approach can the LPSA work. At the initial stages of the LPSA the lack of local relevant data local data meant KCC had to commission Oxford University to conduct a study. Simple benefit claimant counts would not have been suitable to define success or failure of any intervention. More sophisticated analysis was necessary to identify the changes in life chances brought about by such interventions. The coupling of demographic data and that gleaned from the Oxford study has resulted in better local data.

Predicting the numbers of older people helped to live at home: A needs-based model and the implications by Simon Adams (Tribal Secta). The Department of Health Green Paper ‘Independence, Well-Being and Choice’ advocates more older people should be helped to live at home. While the Green Paper stresses the importance of

the prevention and well-being agendas in order to promote independence and active life into old age, it seems to assume that more older people being helped to live at home is automatically a positive outcome. However, there may be an optimal level that reflects need and dependency, as well as a range of other factors, for each local authority area. This “more is better” approach is reinforced by the Social Services Performance Assessment Framework (PAF). Target AO/C32, covers eight defined sets of activity recorded through RAP for older people helped to live at home (OPHTLAH), the optimal 5 “blob” performance band is set at 100 per 1000 people aged 65+ and above.

A theoretical model was developed by the project group. The model recognises variability in population, such as difference in health, deprivation, disadvantage and dependency between districts; the availability of direct access and preventive strategies already in place; the availability of alternative forms of support, some of which may be purchased from the private sector; the age-balance within the older people population, given the association of dependency with increasing age.

A range of data variables were assembled, using Census 2001, DWP, the updated Index of Multiple Deprivation (at local authority level) and Local Authority Social Services activity and budget data. We investigated 48 similar authorities for correlations to the reported levels of the PAF C32 (Older people helped to live at home per 1000 population aged 65+).

The overall conclusion is that “more does not necessarily equal better”. On the contrary, the number of older people helped to live at home should reflect the level of need, dependency and the inability to purchase care in each community. The linear “League Table” presentation of Social Services “performance” in helping older people to live at home is essentially flawed, as it takes no account of the levels of local need. In the majority of cases, those authorities that are at the “bottom” of the league table are there because there are less people in their local community requiring social services, not necessarily because they are performing poorly. Authorities are therefore being set unrealistic targets, which provide unnecessary concentration of effort and may lead to wasteful allocation of scarce resources.

Integrated approach to local level planning by local government, considering population as the weighing factor by Jagannath Ojha (Ministry of Local Development, Nepal). This study is based on a field survey of one of the district of Nepal, consisting of 18 Village Development Committees (VDC) and 151 Settlements. The study looked at the variables to examine the real needs of people as part of local level planning with the concept of people-centred development.

The variables considered in the study were: first, sum of time taken to get the desired services; second, quality factor of service stations and third, local priority that people perceived. All with population as the weighting factor as well as the experiences with concerned stakeholders.

This collection of relevant variables leads to two conflicting tensions: one the access right of people, and the other is the economic viability of the service. Although the size of population is used as weight, the level of accessibility is the most important

factor for the identification of real needs that culminates to the accessibility index (AI).

Local government, census and national issues was chaired by John Hollis, Greater London Authority and was an eclectic mix of contributions.

First, Maura Misiti (Istituto di Ricerche sulla Popolazione e le Politiche Sociali, Rome) presented the results of a *research based on a policy-Delphi survey* carried out in Italy in 2003. The aim was to design population and society scenarios up to 2030 and the study is part of a Europe-wide research project conducted in 15 European countries. The research followed an ad-hoc methodology that considers both quantitative and qualitative perspectives. The method integrates Delphi, Appreciative Inquiry and SWOT Analysis. The overall approach is designed to provide tools and inputs to shape policy interventions at national and local level. Scenarios were designed following the comments and suggestions indicated by a panel of experts. Three main issues were dealt with in terms of policy developments: the elderly, family and fertility and gender roles. All the issues are strictly interrelated and animate the Italian scientific, political and social debate.

Malcolm Brown, (Cornwall County Council), and Maia Godonoga, (University of Plymouth), then gave a presentation on the *2004 Census in Moldova*. Malcolm was selected as one of the International Observers for the Census in October 2004 and Maia was one of the Moldovan interpreters, monitoring how the Census went in the Orhei region. The Census had been delayed several times and there were practical difficulties organising it because of internal political problems, ethnic tensions and a shortage of money. It eventually took place with a heavily devolved structure and high calibre enumerators who conducted interviews and completed the forms themselves. The topics were familiar to users of the British censuses but questions were more sophisticated in respect of residence definitions, duration of residence and languages. The observers were asked to watch very closely how the enumeration was undertaken. There were problems of inconsistencies with how students and people working abroad were treated and answers did not all seem accurate and answers to the languages question were exaggerated.

Vicky Head, (Cambridgeshire County Council and Anglia Support Service), showed how the *2001 Census was being used by Cambridgeshire PCTs*. At a local level, Primary Care Trusts (PCTs) are important users of Census and other socio-economic and demographic data. The current emphasis on the public health function, including health promotion initiatives, has led PCTs to adopt an increasingly population-based approach to their work. Vicky showed how the PCTs have been making use of the 2001 Census and describes the benefits of a joined-up approach to Census analysis. In Cambridgeshire, joint NHS/County Council work has helped PCTs access and interpret data, through publications such as area-based profiles and topic-based reports. The presentation used the example of using the Census to identify local health inequality - by geography and by ethnic group - and showed the importance of considering age-structure variation when doing so.

The session finished with Abdelouahid Tajar (University of Manchester) using the *2001 Census microdata to explore household formation and ethnicity*

using multilevel modelling approach. He examined how household formation varies between ethnic groups and looked for additional geographic variation. He calculated headship rates by ethnic group, E&W local authority district (LAD), age and sex, using the CAMS (Controlled Access Microdata Sample), a 3% sample from the 2001 Census. Using random intercept multilevel logistic models, it was been possible to show how headship varies between areas and to explore how the headship rate curves differ among LADs, for the white population and each ethnic minority. Abdelouahid Illustrated the presentation by comparing a number of local authority districts to the national rates.

Sub-national 2 was chaired by Robin Edwards of Hampshire County Council and focussed on population estimates.

Briony Eckstein (Office for National Statistics) presented work in progress that is investigating the *utility of data on households being incorporated in making population estimates*. Administrative datasets do not usually exist for the explicit purpose of measuring the population, and thus it is likely that they are not suitable to be used to make population estimates purely by aggregating counts. Briony considered whether information from administrative data sets relating to housing and property might be sufficient in detail and quality to be used in the estimation of household and population numbers down to Local Authority level.

This theme was continued by Piers Elias, (Tees Valley Joint Strategy Unit), who looked at some of the *different data sources that are available* from either central Government or within Local Authorities or Health Authorities and how these can be used to enhance other core data sources, such as Census data, in the pursuit of a population estimate that has some weight and meaning in the context of providing services at local level. Local Authority demographers are constantly being asked to provide good quality data for ever-decreasing and non-standard geographies in shorter time-scales; having access to individual records, either at household level or at person level, does allow this flexibility, provided there are the resources and expertise to maintain and analyse the datasets, and can act as more than just a quality check. Piers gave guidance on accessing and utilising specific datasets.

Julie Jefferies, (Office for National Statistics), extended the estimates theme by showing how ONS had produced the *revised back series of population estimates for 1991-2000*. These estimates were produced after research into the best methodology. For the first time the back series also incorporated both the revised 1991 population estimates published in February 2003 and the revisions to international migration estimates for the 1990s. After explaining the background – both the intercensal difference remaining after the adjustments to the 2001 estimates and the need to improve on the methodology used in the interim revised back series – the presentation focus on the research. The key decision was how to split the remaining intercensal difference (209,000) by single year of age and sex back over the ten years from 1992 to 2000. The presentation illustrated the different methods explored and their advantages and disadvantages. The solution was a cohort method weighted for migration by age and time with a period adjustment, combining the best features from various methods.

Finally, Levin Wheller and Madhavi Bajekal, (Office for National Statistics), unpicked the *data from the 2001 Census relating to residents and staff in communal establishments*. In the 2001 Census, when forms for residents of communal establishments were completed on a proxy basis by staff from the establishment, information about the resident's position in establishment was sometimes misrecorded, ie as a 'staff' member had filled in the form the status of the 'resident' was often recorded as 'staff'. This resulted in an incorrect split between numbers of residents and staff. These problems are most apparent for medical and care establishments and particularly affected older age groups. Levin and Madhavi showed how ONS are currently working on developing a robust methodology to provide more accurate figures on staff and resident numbers in 2001. This methodology will be used to produce a set of revised tables.

Migration, Population Distribution and Ethnicity:

This strand attracted a good response from the call for papers, leading to 21 papers presented in six sessions.

The first session comprised four papers with an emphasis on immigrants. The first, by Jamie Goodwin-White (Southampton), examined the *determinants of inter-metropolitan destination choice (1995-2000) for foreign-born and 1.5 generation adult children of immigrants in the US*. Jamie argued that, while spatial assimilation theories suggest that intergenerational social mobility is connected with spatial dispersion, her research findings reveal the continuing importance of immigrant concentration in the destination, for the children of immigrants. Her migration models demonstrate that ethnic concentration, rather than absolute economic conditions, are likely to be a more important migration factor, while relative differences in the immigrant-native wage gap at origin and destination also influence destination choice for the children of immigrants. Jamie's findings explain to a certain extent the higher outflows from New York and Los Angeles of the 1.5 generation to other metropolitan areas, states and regions with high immigrant concentrations.

John Stillwell (University of Leeds), in a paper co-authored with Oliver Duke-Williams focused on the *evidence of ethnic population distribution, immigration and internal migration for the 408 Local Authority districts in Britain, analysing the 2001 Special Migration Statistics*. The authors pointed out that internal migration involved over 10% of the British population in 2000-01, resulting in losses from London and the metropolitan areas in a longstanding pattern of counter-urbanisation. Ethnic minority populations remain heavily concentrated in certain London boroughs and metropolitan districts in England and there is evidence that this is reinforced by immigration (with the black population being the most segregated). Nevertheless, analysis of the 2001 SMS provides evidence of a net movement away from areas with higher ethnic concentration; while for whites there is evidence of movement from areas with lower to areas with higher shares of whites. The authors argued that more detailed analysis is needed, given the inclusion of students and the coarse scale of their analysis.

More specific analysis of *ethnic migration flows in London* was presented by Eileen Howes (Greater London Authority) in a paper co-authored with Marian Mackintosh. The authors pointed out that 2.1 million people who belong to a black and minority ethnic group lived in London (29% of the city's total population), while around 46% per cent of all non-White ethnic groups in the country live in London, with higher

concentrations of certain groups in some Boroughs. The Greater London Authority commissioned two tables from the 2001 Census with information on the migration flows of ethnic groups in London boroughs by age and gender. The commissioned tables contain information on how people from the 10 ethnic groups moved around London in the year before the 2001 Census, as well as moves between London and the rest of Great Britain, and moves into London from countries outside England & Wales. The presentation illustrated the main patterns shown by the data in a series of maps at the Borough level for each ethnic group. Their detailed analysis allows the influence of migration patterns on the ethnic composition of London to be assessed.

This first session of the strand concluded with Ludi Simpson's (Manchester) detailed *analysis of the nature of dispersal of ethnic populations in northern England*. Ludi was keen to point out that the relationship between race and sub-national migration has increasing relevance to social policy, while a tension between 'segregation' and 'community cohesion' is high on the agenda of this government's social policy. Although population dynamics of settled Black and Asian communities in Britain can be understood by separately identifying the contributions of natural change and migration, there are few data to measure these components. In order to address this problem, Ludi developed indirect estimators of the net impact of natural change and migration (1991-2001) for small areas within Oldham and Rochdale. The study areas were chosen for their significant Bangladeshi and Pakistani populations, while births were estimated from the number of children and deaths from the age structure in the 2001 census. The results show clear patterns of dispersal, with two important characteristics. Natural demographic growth from a young population creates migration of Asian families into areas neighbouring the original settlement areas, with similar socio-economic characteristics but fewer children. At the same time migrants who move further afield tend to have more resources, creating social stratification in much the same way as counter-urbanisation has affected the whole of Britain in the past half-century. Ludi concluded that segregation and ethnic composition are not directly amenable to policy, but depend heavily on demographic trends and participation of ethnic groups in the labour market.

The second session of three papers had an international coverage of studies. Yolande Bouka (Seton Hall University, USA) opened with a presentation on the *urban/local nationalism in Montreal*. Montreal is unique for the linguistic pattern of its residents. About 50% of the population use both English and French in their work context. The influx of immigrants in recent decades has further diversified the population. Questions about how people define and maintain their identities had been explored through focus groups composed of Montrealers of different ethnic backgrounds. The study found that a growing number of Montrealers coming from ethnic minorities tend to define themselves as members of a nation confined within the Greater Region of Montreal due to the lack of specificity of what the Canadian nation is, and the fact that most people have an ethnic understanding of Quebecois nationalism rather than a civic one. Furthermore, the politicization of language usage in Quebec has led non-"Quebecois de souche" to refuse to take part in the debate that would crystallize language usage with identity, since a strong percentage of minority Montrealers are multilingual.

Elizabeth C. Cooksey (Ohio State University, USA), in a paper co-authored with Joseph F. Donnermeyer, talked about the *patterns of migration and community*

formation among the Amish in the USA. She began by an overview of the history of Amish in the U.S. that started in 1737 and the rapid growth of the Amish population since then. The Amish population has been doubling approximately every 20 years, and today there are more than 200,000 Amish in North America living in approximately 350 communities. She then introduced the two unique sources of data that were used in the study – community data from Amish publications including 3 newspapers that serve an Amish readership and individual level data derived from published directories of various Amish settlements in Ohio. This data was used to compile maps showing the community settlement patterns in Iowa and Ohio. A range of issues associated with new community formation was discussed including the motivations for establishing new communities and the development of the economic, social and religious infrastructure necessary to sustain new Amish settlements.

A.J. Christopher (Nelson Mandela Metropolitan University, South Africa) talked about *questions of identity in the millennium round of Commonwealth censuses*. After a review of the development and change of the British census system, Christopher discussed the commonality and differences among the 69 Commonwealth censuses of the millennium round. The survey provided a highly complex and incoherent picture. All Commonwealth census authorities posed questions concerning identity, however, there was no universal definition or classification system. In general, the identity-related questions could be divided into four categories – nationality, ethnicity, linguistic identity, and religious identity. Out of the 69 censuses, 48 included questions regarding citizenship, 23 included questions regarding language, 41 asked questions related to ethnicity, 54 asked questions related to religion. Christopher further pointed out that, when asking about the motivation of including some of the identity questions, it is not uncommon for questions to be included to satisfy curiosity. He also observed that, because the way people perceived themselves also changed substantially over time, the responses to the same questions changed dramatically too. All these inconsistencies made the analysis of long-term trends and cross-country comparisons difficult.

The four papers of the third session began with Nikolaos Mostratos (University of Newcastle upon Tyne) examining the *population changes that occurred in Greece during the turbulent period of 1940-1951*. The spatial and temporal differentiation of Greece's population, during and after the Second World War and the Greek Civil War were mapped and explanations for population change advanced with special reference to specific ethnic groups. The research involved innovative collation and manipulation of disparate data sources to create for the first time a detailed cartographic base of 1928-51 to examine spatial population changes at "OTA" (local authority level). This revealed that Greece was a different country after the Second World War with the massive rural exodus resulting in more than half a million people concentrating in urban centres (mainly Athens and Thessalonika). The impact of this period of population change has been long lasting and the decrease in specific ethnic groups has resulted in Greece becoming a homogenous country (regarding spoken language and religion).

Cecilia Macintyre and Gillian Miller (General Register Office, Scotland) assessed the *value of using Community Health Index data for proxy measures of migration in Scotland*. Estimates of small area migration in Scotland had been aggregated to the 32 Council Areas for the period 2001-2004. Migration within Scotland and migration

from other parts of the world were examined. The main findings revealed that in some areas there were gains from both directions (e.g. Borders, Aberdeenshire) whereas others areas had a loss to Scotland and a gain from outwith (e.g. Orkney, Shetland Islands, Glasgow). Inverclyde, Midlothian, Dundee and East Dunbartonshire had overall losses and areas such as West Lothian, East Renfrewshire, East Lothian and Falkirk had positive gains from Scotland. Areas with high turnover were revealed to have high student numbers or new housing.

The paper by David Owen and Anne Green (University of Warwick) used 2001 Census Special Workplace Statistics to examine the *spatial dimension of the labour market and variations in commuting behaviour*. A series of regression models revealed that both people- and place-based factors influence participation in work and that geography matters most for those with poor skills. Living in a deprived neighbourhood, low skills level, poor health and being of Pakistani/Bangladeshi origin were associated with a lower probability of being in work and by being geographically constrained in commuting distance. It was suggested that, to address the problem, there should be demand-side policies, as supply-side policies were not enough.

Finally in this session, Eileen Howes (Greater London Authority) used the 2001 Census travel to work data from tables commissioned by the Greater London Authority. The research focussed on the City of London and Westminster and specifically looked at employment density and commuters per residents aged 16-74 in employment. The research revealed that the City and Westminster have the highest percentage of commuters and that ethnically the commuters are predominantly white and male. Of other ethnic groups, Chinese and Other are well represented in the City; Asian and Black are unrepresented in the City and Mixed are high in Westminster but low in the City.

The fourth session began with Atreji Majumdar (University of Delhi, India) describing the effects that *globalization is having on emigration and urbanization in the developing countries*. In recent decades the numbers of people from rural areas flowing into urban centres and the western countries has increased dramatically. She presented census figures indicating that, despite the global trends and some early signs towards that direction, in India the propensity to migrate has declined in recent decades. However, the combination of the socio-economic conditions and a high level of education could spurt a mass exodus from the rural to the urban areas and to emigration in the near future.

Marta Blangiardo (Imperial College London), in a paper co-authored by G Baio (LSHTM), analysed *the level of immigrant population integration in Italy*, and more specifically in the Lombardia region, where an information system monitoring the phenomenon annually is available. This dataset, consisting of 32,000 sampled cases over four years, provides structural, individual and family characteristics of the foreign immigrants. A latent class model was used to measure the level of integration of the immigrants within Italian society.

Vicente Rodriguez (Institute of Economics and Geography, Madrid) presented findings from an ongoing study, undertaken jointly with Ricardo Mendez and Ana Melero, on the *foreign immigrants in the region of Madrid*. In the last decade, the

numbers and nationalities immigrating to Madrid have changed significantly, but the data provided on the phenomenon are not comparable. In this project, descriptive data, taken from questionnaires and interviews with the studied ethnic groups, had been used to analyse the geographical, social and economical features of the immigrants and their place in Madrid's labour market.

The presentation by Fei Qin (MIT, USA) focused on the *migration of highly skilled professionals from China to the USA*. Unlike the current studies that focus on the social capital of the 'brain-circulation' phenomenon, she used qualitative data, obtained from 200 samples and 50 interviews in Boston, to examine it as a social process. She found that co-ethnic networks played an important role in providing economic resources for the migrant's adaptation of the labour market and linkages between Diasporas and the home country. It was particularly interesting to see how alumni and work ties were more important in job search than family and kinship ties.

The fifth session was kicked off by Seraphim Alvanides (University of Newcastle) who outlined the *changes in the distribution of the population of Greece* over the past 50 years. He outlined a number of questions that were to be answered within his research. What have been the effects of post war urbanisation? Has there been any evidence of any counter urbanisation over the last two decades? And how if at all has the government's decentralisation policy had an effect. It was explained that counter urbanisation had not been taking place, although the pace of urbanisation had been slowing down. It was concluded that the government's decentralisation programme had had no effect on the patterns of overall migration. Seraphim painted a fascinating picture of how some people tried to increase the population of their home villages by leaving the major cities and returning home on the weekend of the census that in Greece is always held on a Sunday.

Giles Horsfield (Office for National Statistics), in a paper co-authored with Michael Rendall and Emma Wright, painted a detailed picture of the problems of providing *accurate figures of migration into and out of the UK*. The work he described was based on a comparison of figures from the Labour Force Survey (LFS) and the International Passenger Survey (IPS). Giles outlined how there had been collaboration across Europe to provide more accurate and reliable figures and that, following an ONS quality review, it was decided that statistics in this area needed to be improved. By pooling data from surveys across Europe the research was able to identify problems within the data. The IPS indicated greater numbers of migrants than the LFS, while the LFS was better at identifying the migration of foreign nationals than the British.

Tony Champion (University of Newcastle), in a presentation prepared with Mike Coombes, asked *whether our cities are still losing human capital*. Research based on the 1991 Census had shown that the highest skilled groups are responsible for a large amount of the migration from Britain's largest cities to the countryside. Given the policies of urban regeneration across the country, had there been a change in this trend, as living in cities becomes a more attractive proposition? The evidence of the 2001 census for the ten largest urban centres in Britain was that the process that could be seen in the 1991 Census was still taking place, with all but London showing losses of the highest skilled groups. Other smaller centres such as Brighton, Nottingham and

Reading also showed some small gains, but in general the process appears to be continuing.

A good turnout for the sixth and last session in this strand were rewarded with three fascinating papers presenting the results of explanatory modelling of neighbourhood 'churn', district out-migration and inter-district flows in the UK respectively, together with a final paper reporting the results of a cluster analysis of all output areas in the country based on 2001 Census data.

Starting from the hypothesis that deprived areas are likely to be characterised by relatively high levels of population turnover through migration ('churn'), Nick Bailey and Mark Livingston (University of Glasgow) reported their *application of linear regression models with area data* (super output areas in England and Wales and datazones in Scotland) to demonstrate that compositional factors are responsible for explaining 86% of turnover, i.e. churn is a function of the structure of deprived areas and of the population who live there. Maps of selected cities were presented showing areas where churn was under-predicted or over-predicted by their area model, challenging the audience to consider explanations and providing policy-makers with a means of identifying areas where there may be structural problems.

The following presentation by Stamatis Kalogirou (London School of Economics) shifted the focus to out-migration at the district scale in England and Wales and to a *cross-national comparison with out-migration from municipalities* with residents over 20,000 in Japan. The work, conducted with Tomoki Nakaya and Keiji Yano (Ritsumeikan University), used geographically weighted regression (GWR) to identify the global and local effects of 20 determinant variables on age/sex-specific out-migration. Whilst a positive relationship was found for out-migration and percent higher professional and managerial and a negative effect was found for house ownership in both countries at a global level, unemployment appeared to have a negative effect in England and Wales and a positive effect in Japan. At the local level, parameters for most variables were more significant in Japan than in England and Wales. Stamatis illustrated regional (local) variations in the degree of influence of particular determinants across the two countries, emphasising the value that a GWR approach in providing insights into how these effects vary spatially. Questions were raised about the validity of comparing the spatial units chosen in the two countries and the role of unemployment given contrasting welfare systems in each case.

Robin Flowerdew (University of St Andrews), in a paper co-authored with Zhiqiang Feng, used data from the *2001 Special Migration Statistics to model inter-district flows in Great Britain* using Poisson regression. Many of the biggest aggregate flows occurring between districts were identified as suburbanisation streams from cities to their surrounding areas and these were under-predicted by the initial modelling of flows incorporating gravity variables together with a contiguity factor to pick up the short-distance flows across district boundaries. The inclusion of additional explanatory variables improved model fit, with private renting being particularly significant. Gravity variables and contiguity were significant in each of the models for broad age groups (16-24, 25-44, 45-64) but unemployment was found to be not that important.

To complete the proceedings, Dan Vickers (University of Leeds) explained the *output area classification* that he and Phil Rees have produced in collaboration with ONS. This classification, which is available on the ONS web site, is based on 41 Census 2001 variables clustered according to a three tier nested hierarchy of 7, 21 and 52 groups. Dan illustrated the key characterising features of each of the top tier clusters (Blue collar communities; City living; Countryside; Prospering suburbs; Constrained by circumstances; Typical traits; Multicultural), using radial diagrams and photographs of typical residential environments. No migration variable was included in the classification and consequently it is feasible to consider profiling the migration characteristics of each cluster. The audience demonstrated their expertise by correctly picking 'City living' when asked which group was associated with the highest migration, but some were surprised at the lack of variation between the other six groups. Everyone left the session in good spirit and with encouragement from Dan to supply him with lots more photographs from across the realm to further exemplify each of the area types in his classification.

Mortality

The mortality session consisted of three papers dealing with different aspects of health and mortality. Mike Murphy (London School of Economics) presented a paper on *Identifying cohorts with favourable mortality experience*. He reviewed the work of Kermack et al in the 1930s and he argued that their cohort effects in nineteenth mortality experience could also be interpreted within an epidemiological transition framework. Attention has recently been given to cohorts in Britain born around 1930 that are described as 'Golden cohorts', in part because they appear to have experienced greater mortality improvements than immediately surrounding cohorts. Similar patterns have been identified in some but not all other countries under the name 'select cohorts'. A number of approaches to identifying such cohorts using data from Britain, France and Japan were discussed, including period to period changes in mortality rates; use of numerical derivatives using super-smoothers; and penalised splines within a generalised additive model framework. He discussed reasons for the apparently contradictory findings using different methods that include sensitivity to the selection of the particular time and age subsets for presentation of mortality surfaces. He showed a number of visual illusions to indicate how easy it is to misinterpret graphical images. He concluded that the assumption that there exists a persistent advantage of certain cohorts with substantial substantive implications has not yet been established conclusively. He questioned whether the implicit (and sometimes explicit) assumption that observed patterns will continue into the future - and therefore may be used to improve forecasts - is robust.

Marlena Schmool (City University & Independent Researcher) presented a paper co-authored with Steven Haberman (City University) on *Jewish population and death rates in England and Wales, 2001*. She pointed out that since the end of the 19th century, scholars have assessed the size of Anglo-Jewry by relating deaths' experience within the community to national death rates. The method involves collecting details of Jewish deaths from all burial organisations with the community. This has provided population estimates wider than any based on synagogue or community membership lists but these omit some who are Jewish within the definitions of Jewish law but do not wish a Jewish burial. Data from the religion question in the 2001 census provided a Jewish base population from a different source and with a different definition. It

presented an unprecedented opportunity to evaluate indirect estimates of Jewish population and to derive death rates for the Jewish community. These were compared with the England and Wales age/sex specific rates that have been used since the 1970s to extrapolate Jewish population from deaths' data. She presented a series of age and sex specific death rates for the Jews in England and Wales in 2001, by relating annual average number of deaths - recorded in the community for the period 1999 to 2003 to Jewish population distributions that draw on the census data. These bring out the specific nature of an ageing, predominantly middle-class low-mortality community at the end of the 20th century.

Alessandra Battisti (Italian National Institute of Statistics (ISTAT), Central Directorate on Social Institutions Surveys, Health & Care Service) presented a paper co-authored with Alessandro Solipaca (Project Director, Statistical Information System on Disability - ISTAT) on *Non-independent persons: definitions and statistical methodologies for correct identification*. Population ageing is one of the main factors in the increase of disability in general and also of particular mental health problems such as senile dementia that are closely connected with increasing longevity. Thus, improvements in the health care system has given more people the possibility of living longer but it has also increased the number of people in need of social and health assistance, including informal family support. The importance of "non-independent persons", i.e. those who are unable live independent lives because of health-related problems, is growing rapidly especially for policy makers. She compared different statistical approaches to identify such non-independent persons, starting with a review of the definitions of a non-independent person used in Italian and international literature. She then went on to consider statistical methodologies that may be applied to identify non-independent persons. Three different approaches were discussed: the first used a predetermined classification of functioning lost by "non-independent persons". The second approach used multivariate correspondence analysis with micro data of a selected population with a certain degree of disability. The third approach applied a probit-ordered model to evaluate the impact of the different Activities of Daily Living on health status. The results of the different approaches were compared to identify the main dimensions of the phenomenon, which were similar across all instruments: feeding and preparation of food, and the ability to wash hands and face without assistance.

Reproductive Health

The Reproductive Health Strand at this year's BSPS conference consisted of 8 diverse papers, incorporating both quantitative and qualitative approaches to examine global reproductive health issues relating to policy, practice, and health outcomes.

The strand opened with a paper presented by Chandraa Bhattacharya (London School of Economics) examining the *impact of state population policies on the provision of family planning in India*. Madhya Pradesh, a policy state was compared with West Bengal a non-policy state. The author identified that the adoption of state policies has been due to availability of financial and technical assistance from the Policy Project funded by USAID. However, changes in family planning provision have been part of national family planning programme and have been independent of the adoption of state policies. Socio-political factors helped to explained variation in the provision of family planning observed at the state and the district levels. Gail Grant (University of

Southampton) presented the findings of a *qualitative investigation on reproductive health in Estonia*, focusing on attitudes to contraception. Young adults in Estonia report some wariness about having children where they feel insecure about the future, in terms of employment and living costs. While provision of sex education has improved, some children miss out due to non-attendance in school. The author reported that attitudes to contraception are positive, and views concerning abortion remain liberal, but abortion is not treated lightly.

The first session closed with 2 papers on the reproductive health outcomes of Bangladeshi migrants to the UK presented by Alejandra Nunez-de la Mora and Gillian Bentley (University College London). Alejandra Nunez-de la Mora described a trend towards higher hormonal production and increased lifetime steroid exposure, and thus potentially *higher risk of breast cancer among the younger generations in the Bangladeshi migrant community in London*. Developmental changes (rapid growth, earlier maturation) and socio-cultural adjustments (changes to diet, reduced support from extended family, decreases in physical activity levels) among South Asian migrants are among those factors that may be contributing to breast cancer risk. Gillian Bentley (University College London) presented her paper on the *effects of developmental environments on reproductive hormone levels by comparing migrant Bangladeshi women to London with Bangladeshi sedentees in Sylhet, Bangladesh*. Lower levels of salivary progesterone levels were identified among women who spent their childhood in Bangladesh than second-generation migrants and white women in London. The authors suggest that higher morbidity levels and consequent immune challenges in development can help to explain lower progesterone levels for first generation migrants.

Tiziana Leone (Institute of Education) opened the second Reproductive Health session with a paper comparing the *uptake of sterilization in Brazil and India*, co-authored by Sabu Padmadas from University of Southampton. The paper focused on assessing the relative importance of age and parity in explaining higher levels of sterilization acceptance in Brazil and India. Despite the timing and parity differences associated with sterilization (more accentuated effects of age and parity in Brazil), the reproductive spans of women in both countries are declining at an accelerated rate, largely as the result of sterilization acceptance. The paper identified how differing family planning intervention strategies have influenced the higher acceptance of sterilization in these two countries. Ruth Mace presented an anthropological study, co-authored with colleagues at University College London, on the *uptake of contraception in 4 rural Gambian villages*. Cohort effects were the largest, indicating that uptake rates appear to be doubling every ten years. The author also reported highly significant differences between villages that persisted over 25 years. The two villages with close social links progressed at a similar rate of uptake, however another village where most people were from a different clan, progressed at a much faster rate. Cultural transmission was suggested to be a very important determinant of first use of contraception.

Nazarius Mbona Tumwesigye compared *condom use among young people in two districts in Uganda*, in a paper co-authored with colleagues from the University of Southampton, Roger Ingham and David Holmes. The author identified a number of factors associated with condom use, including district, higher education level, school attendance, not taking alcohol and higher age at first sex. The final paper of the

session, presented by Mohammed Amirul Islam (University of Southampton) and co-authored with Sabu Padmadas and Peter Smith, described *inconsistencies in reporting contraception between spouses in Bangladesh*. Discrepancies in reporting use among condom, pill and traditional method users were documented, with husbands frequently reporting the use while the wife did not. Community variation, education and age differences between spouses were all identified as significant determinants of inconsistent reporting of condom use.

Poster Session

A dedicated poster session with presenting authors was held during the reception on the first evening of the Conference, when the judging for the BSPS poster prize took place. Ron Lee and Sonia Catasus had kindly agreed to act as judges, and their decision was a joint award, to Vicente Rodriguez et al for the poster *British retirees in the Costa Blanca, Spain*, and to Rebecca Sear et al for the poster *The uptake of modern contraception in a Gambian village: the spread of a cultural innovation over 25 years*. Each received £75 in book tokens, presented by BSPS President John Hollis. A full list of posters displayed, together with their abstracts, can be found on the BSPS website at www.bsps.org.uk under the 2005 Conference heading. Posters remained on display for the duration of the Conference.

Strand organisers: BSPS thanks to Cecilia Tomassini (ageing and intergenerational relations), Rebecca Sear (evolutionary demography), Steve Smallwood (fertility, and families and households), Paula Griffiths and Nicola Shelton (health inequalities), Eilidh Garrett (historical demography), John Hollis and Cheng Yong Lee (subnational, local government and census), Tony Champion (migration, population distribution, and ethnicity), Mike Murphy (mortality, and plenary speakers), Mhairi Gibson (reproductive health), and last, but definitely not least, Dan Vickers (posters).

Conference reporters: BSPS thanks the following for their invaluable contributions to the Conference report: Fiona Aitchison (ONS), Seraphim Albanides (Newcastle), Andrea Armstrong (Newcastle), Tony Champion (Newcastle), Helen Evans (ONS), Giulio Flore (ONS), Eilidh Garrett (Cambridge Group), Mhairi Gibson (UCL), Baljit Gill (ONS), Caroline Hall (ONS), Paula Griffiths (Loughborough), John Hollis (GLA), Julie Jefferies (ONS), Laura Jones (Loughborough), Cheng Yong Lee (Kent County Council), Nikolaos Mostratos (Newcastle), Mike Murphy (LSE), Fei Qin (MIT), Rebecca Sear (LSE), Steve Smallwood (ONS), Chris W. Smith (ONS), John Stillwell (Leeds), Dan Vickers (Leeds).

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Abstracts for all papers presented at the Conference can be found on the BSPS website at www.bsps.org.uk - many of the presentations or papers can also be accessed at this site, where the title line of the abstract acts as a hyperlink.