

The Ageing Scottish Population: Trends, Consequences,
Responses
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“Old age is the most unexpected of all things to happen to a man”

Leon Trotsky, Mexico, 1935, (quoted in Falkingham, 2002)

Abstract

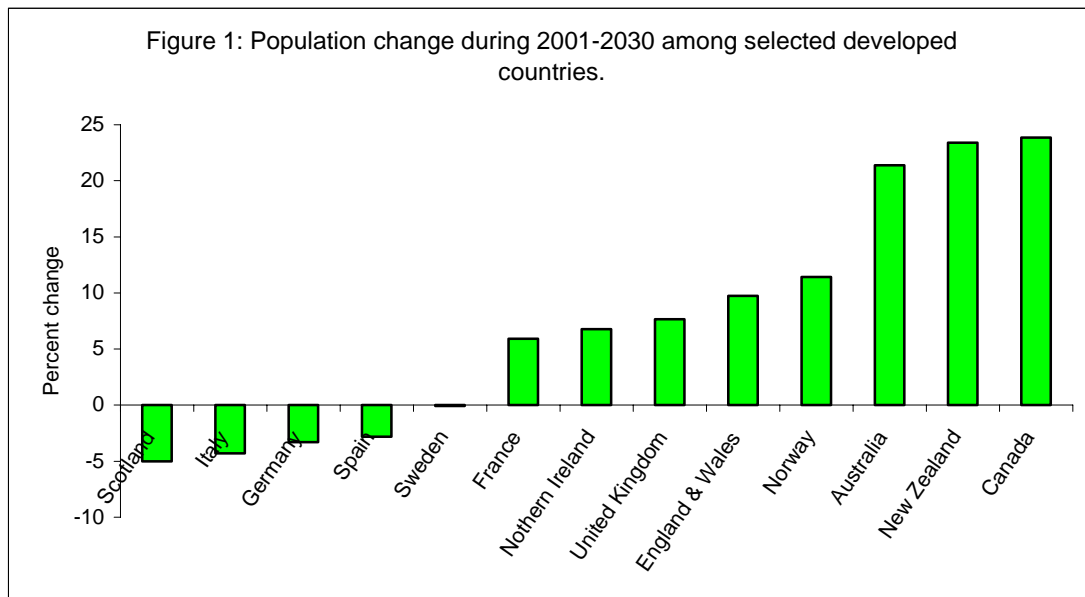
As the results from the 2001 census show, the population of Scotland is shrinking. This has largely been a result of sustained low fertility and the current total period fertility rate is estimated to be 1.48. As a consequence the population of Scotland is getting older and it is projected that by 2009 there will be more people over pensionable age than those aged less than 16 years. In this paper the demographic situation of Scotland is reviewed in the context of European demography. From this review it will be made clear that the headline figures mask huge regional differences in both age structure and growth rates. The causes and consequences of this demographic profile will be discussed in the paper. Consideration is given to the impact on the Scottish economy, notably the labour force implications.

Introduction

The Scottish Registrar General said in his 2003 Annual Review, that “although the overall population is very similar to what it was 50 years ago at just over 5 million, this apparent stability masks big changes in the age structure and geographical distribution of the population within Scotland” (GROS, 2003). The median age of the Scottish population has risen since 1951 from 31 to 38 years and now 10% of the population is over the age of 71. In 1951, 10% of the population was over the age of 64. According to the ESRC (2004:1) “between 1995 and 2001 Scotland’s population fell by 1 percent, while the UK population rose by 2.8 per cent and the EU average rose by 2.2 per cent. In this period no other EU country experienced a population decline.” The decline is projected to continue well into the middle of this century (see *figure 1*).

Although newsworthy, these projected declines have been known about for some time. Their causes, however, and more particularly the causes of decline in Scotland, have not yet been fully determined. A population fall was anticipated (GROS, 2003) as a result of persistent sub-replacement fertility, together with an imbalance in migration flows in favour of out-migration. As illustrated in *figure 2* this has not been

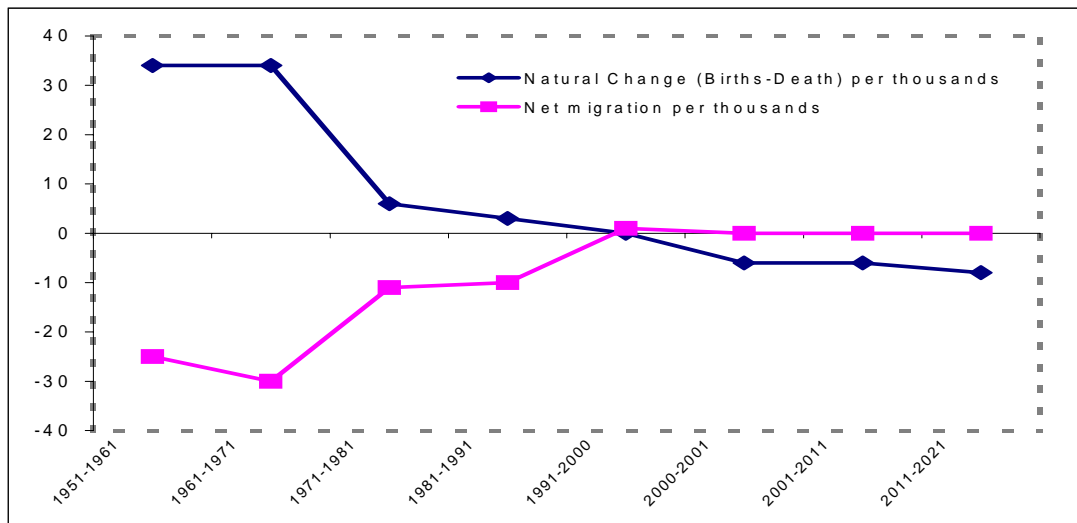
the case. Instead, international migration rates have declined and are in balance, but fertility has exhibited continual decline.



Source: Registrar General's Annual Review, 2003; US Census Bureau (2003).

Migration from Scotland to the rest of the UK, particularly to England, is significant and difficult to measure. It has been estimated that in 1998 Scotland experienced a net loss of around 3,800 people to the rest of the UK. These losses furthermore are virtually all in the 15 to 34 age group – and there is a net inflow of migrants over the age of 45 years, many of whom are returning to Scotland to retire. (Boyle and Graham, 2002; Graham and Boyle, 2003). It may be noted here that the new initiative of government immigration policy has given talented young people from abroad the chance to live and work in Scotland after completing their degrees at Scottish Universities (Home Office, 2006), which may have contributed to recent population increase, as well as having a positive impact on the Scottish labour market. According to Wilson and Rees (2003), however, policies favouring inward migration can only slow population decline but makes little difference to population ageing

Figure 2: Fertility and international migration patterns 1951 to 2030.

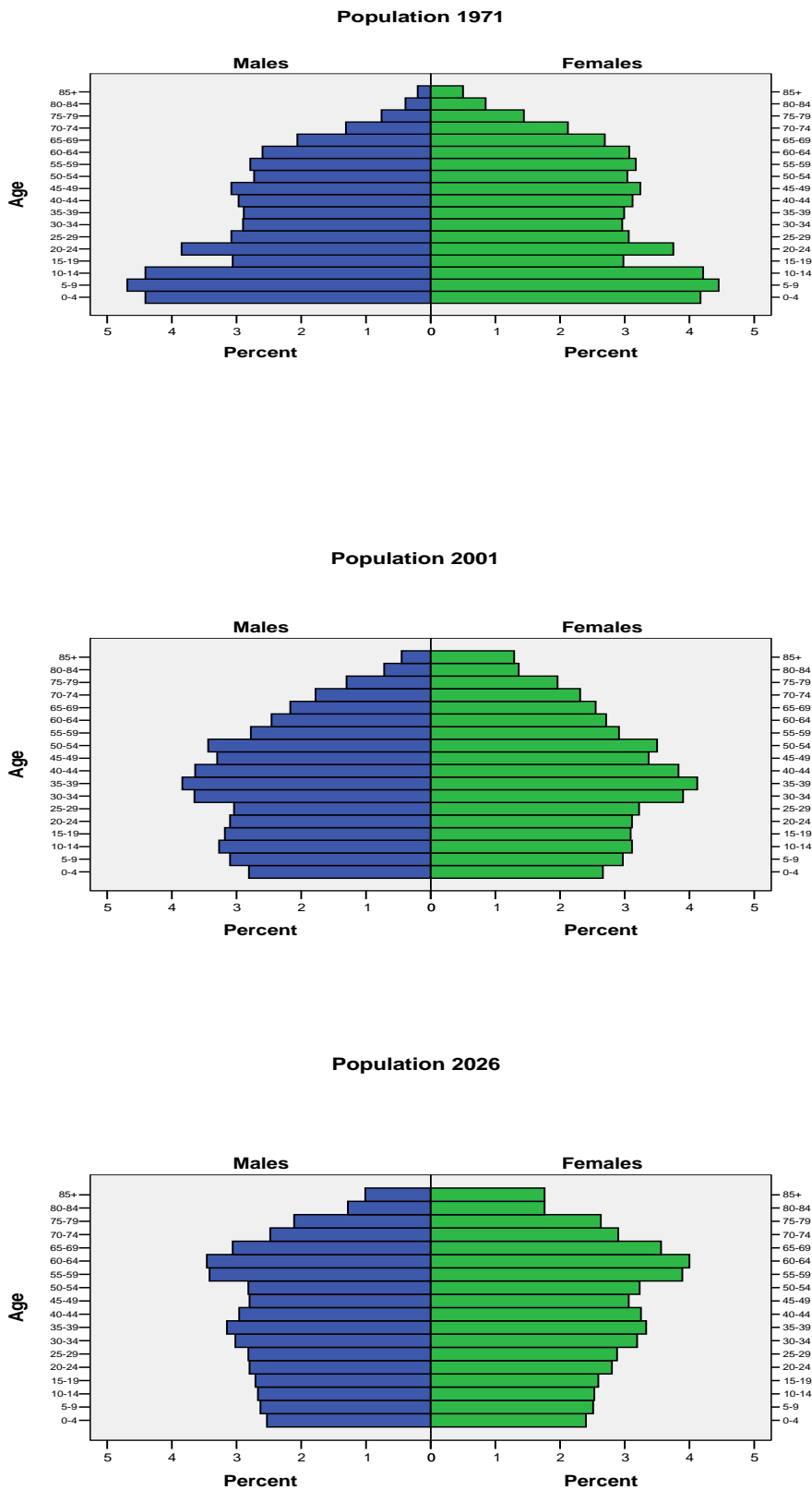


Source: General Registrar of Scotland (GROS, 2003).

The immediate consequence of the overall sustained fertility decline, however, remains an ageing population, and this effect has been compounded by increased life expectancy. Since 1951 life expectancy of Scottish males and females has risen from 64.4 and 68.7 respectively to 73.4 and 78.8 in 2001 and is projected to rise to 77.3 and 82.2 respectively by 2040 (GROS, 2003). The changing age structure of the Scottish population is illustrated by a comparison of 1971, 2001 and the projected 2026 population pyramids, which are displayed in *figure 3*. From these pyramids the drift of an ageing society is clearly revealed. As Wright (2004:13) warns, these trends contain the threat of “a sizeable reduction in the standard of living of Scottish people”.

However, one should note that the continuation of trends is not certain as demographic forecasting beyond a period of 20 years has a history of being notoriously inaccurate. Keyfitz (1981) suggests that population forecasts have large standard errors which grow exponentially as lead time increase and that forecasts for lead times in excess of 25 years are unusable. This echoes Hanjal’s (1955) comment

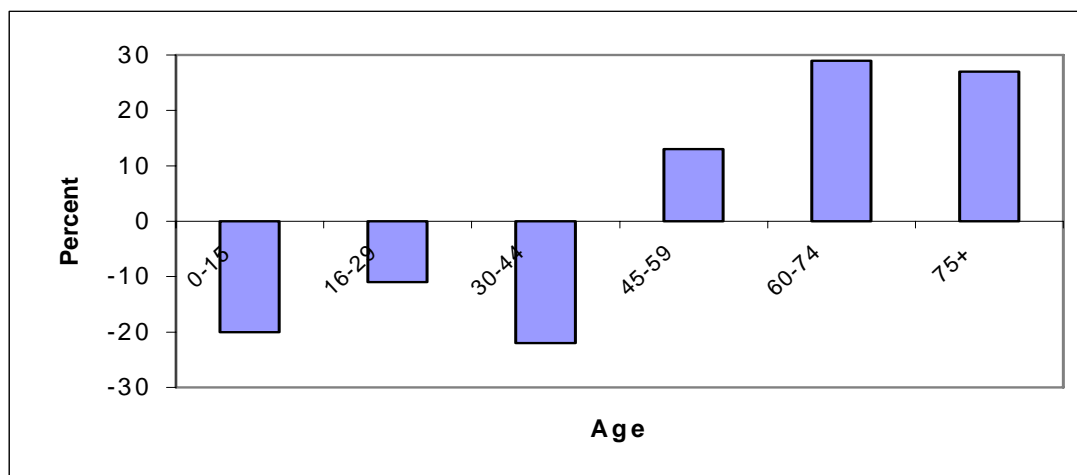
Figure 3: Population pyramids for Scotland: 1971, 2001 and 2026 (projected). *Source: General Registrar of Scotland (GROS, 2003).*



that “the factors whose effects on future growth which we can calculate are likely to be frequently outweighed by the unpredictable and much of the elaborate techniques of forecasters is expended in vain”.

Shown in *figure 4* is the projected change in age structure over the period 2000 to 2021, or the percentage change of population for various age cohorts. This short-term analysis shows that there will be fewer young people than there are now, and also that there is a clear ageing trend.

Figure 4: Projected change in the age structure of the Scottish population 2001 to 2021.



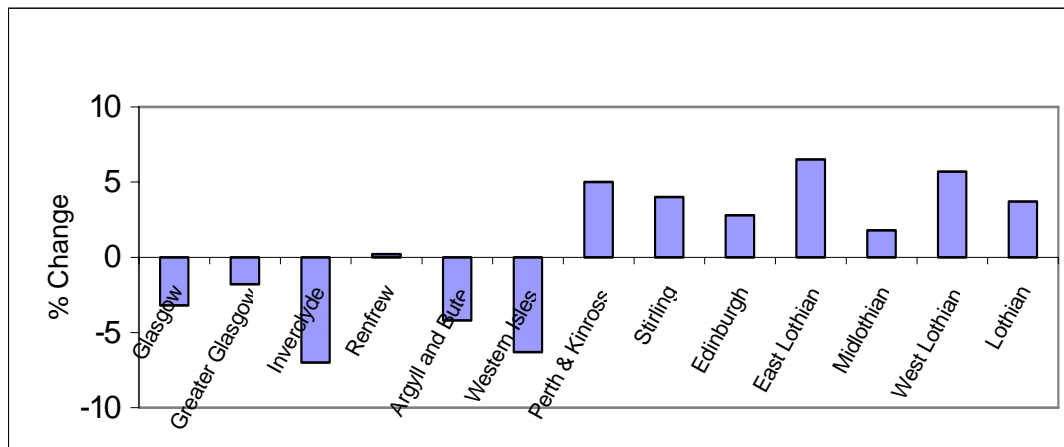
Source: General Registrar of Scotland (GROS, 2003).

Similar changes in the age structure of population are happening worldwide, and the United Nations Population Division(2001) has summarised the main features of this pattern as follows:

- Population ageing is unprecedented
- Population ageing is pervasive
- Population ageing is enduring
- Population ageing has profound implications for many facets of human life.

Clearly the implications for Scotland’s social, economic and cultural life are immense. In this paper we shall attempt to tease out the causes of this demographic change and expand on some of the implications; the likely continuation of recent demographic trends will be assessed, and some strategies for addressing ageing issues will be pointed out. But before moving on, it is important to draw attention to another demographic phenomenon which is affecting Scotland, the changing geographical distribution of its population. Generally, there has been a drift from West to East, with all large cities having shown declines with the exception of Edinburgh. There the under 16 year old population has increased by 6.5% whilst the over 16 population has decreased by 5.1% since 1991. In comparison, the same age group in Glasgow city has decreased by 19%, over the same period. Areas around the big cities, and some rural areas, have increased their populations. The pattern of change is illustrated in *figure 5*.

Figure 5: Population change during 1991-1999 in various geographical regions of Scotland.



Source: General Registrar of Scotland (GROS, 2003).

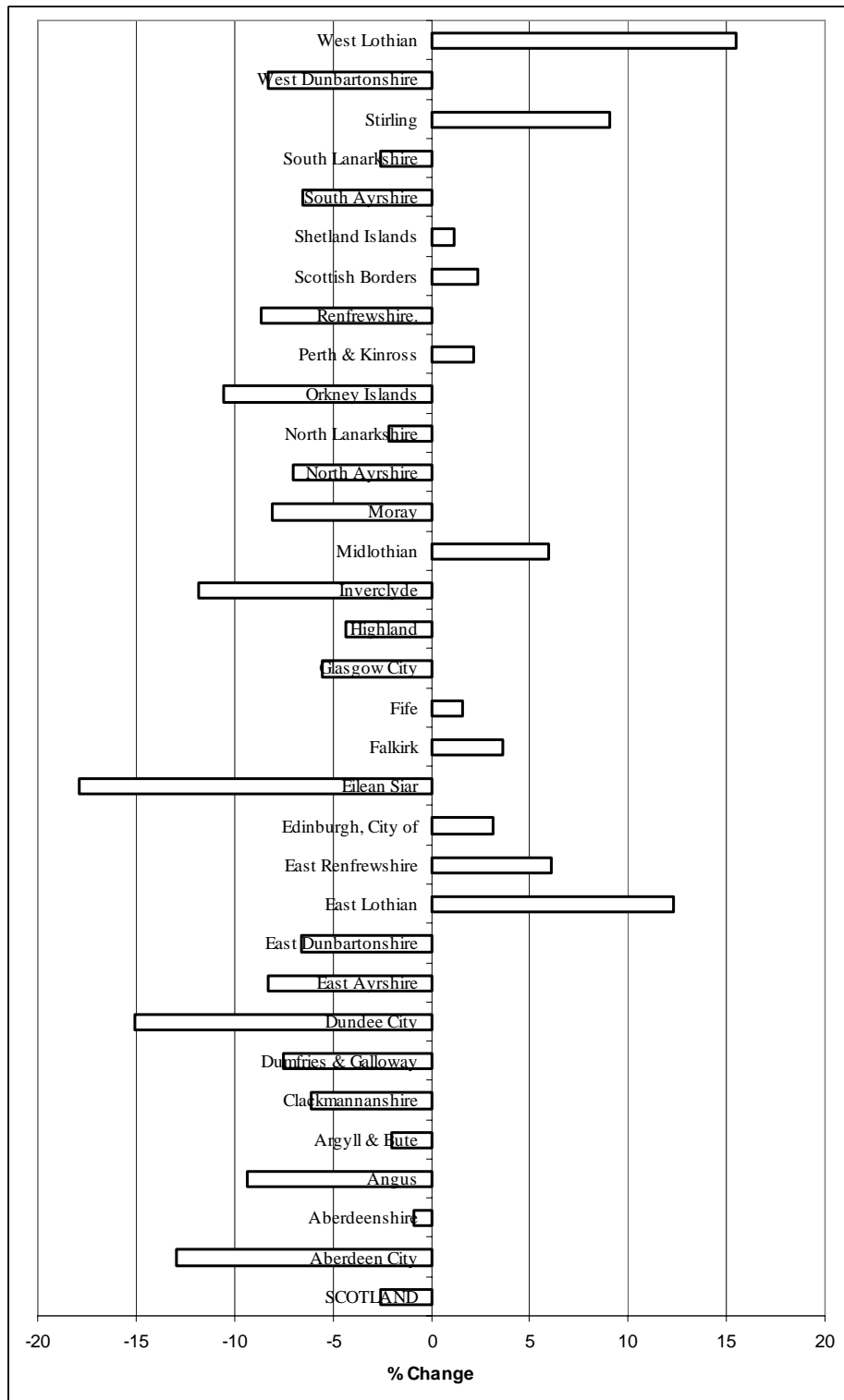
If we investigate recent evidence and look at longer time horizon, for example 2002-2018, we see clear percent changes across different regions. There is partly as a consequence likely to be a dramatic range in future growth rates of the different local authorities as displayed in *Figure 6*. The larger population centres in the east of Scotland, with the exception of Aberdeen, particularly those round the city of Edinburgh such as East and West Lothian, will continue to grow. On the other hand, the populations to the west of Scotland and in more remote areas are expected to

decline. During the period more than 10 percent population decline was projected to be in Eilean Siar, Dundee, Aberdeen, Inverclyde and Orkney Islands.

Just as there is a variation in the distribution of population, there is also a geographical dimension to age structure of the Scottish population. This is illustrated in the bar chart displayed in *Figure 7* from which is apparent that remote areas such as Eilean Siar and Dumfries and Galloway and local authorities to the West of Scotland such as Renfrewshire and Inverclyde and South Ayrshire have an older age profile. As does Dundee City. Whereas those more to the East of Scotland such as West Lothian and Aberdeenshire have a younger age profile. Comparing the two major cities, one can find that Glasgow is close to the Scottish average but Edinburgh has more people between ages 16 and 64 and so has a less dependent population.

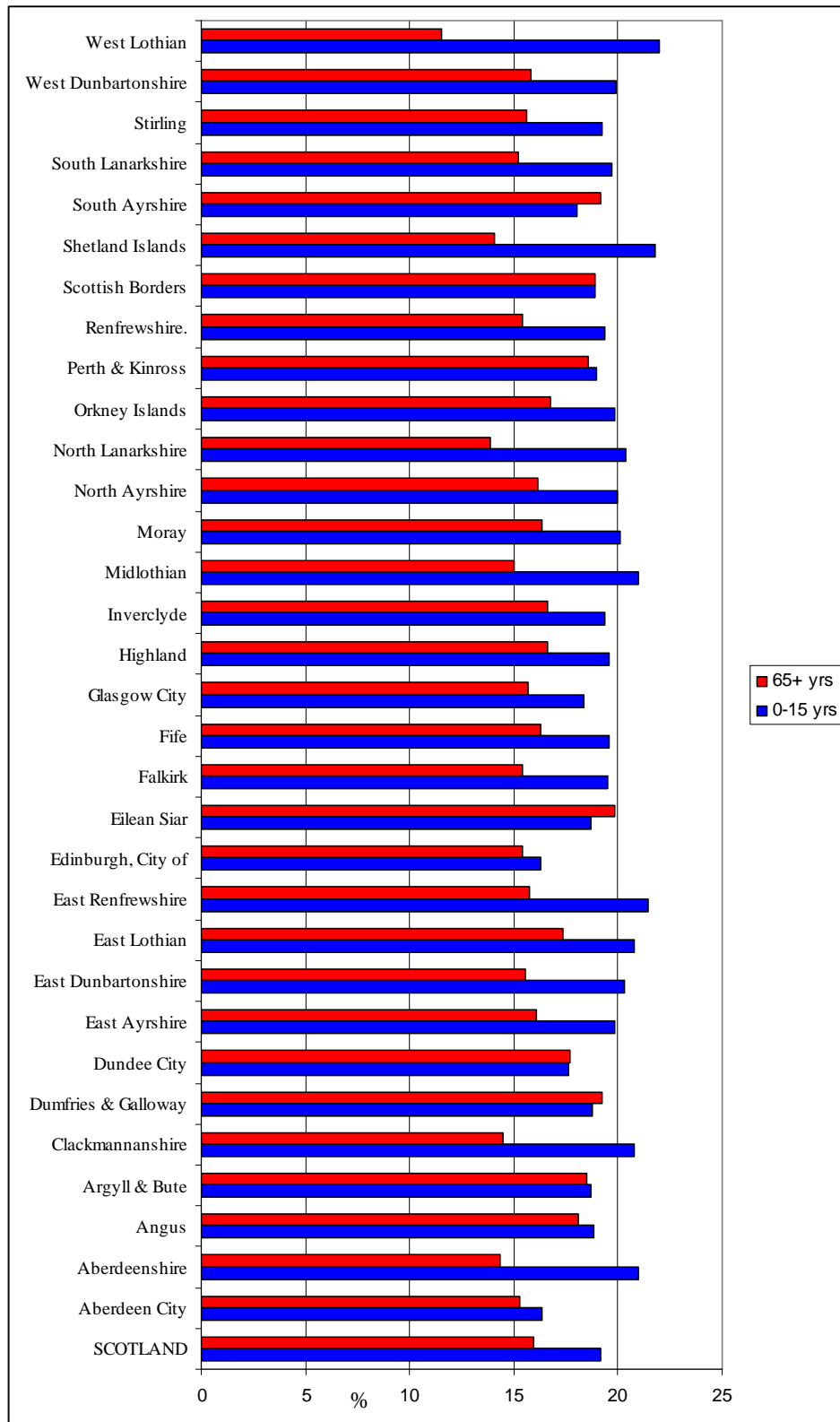
From the analysis it is evident that the speed of population decline is positively associated with longer time horizon and also more likely to increase ageing population in those local authority levels.

Figure 6: Percentage change in Scottish council populations based on 2002 projections of the population in 2018.



Source: General Registrar of Scotland (GROS, 2003).

Figure 7: Percentage of the population between 0 and 15 years and 65 and over years for Scottish local authorities in 2001.



Source: General Registrar of Scotland (GROS, 2003).

Comparisons with Other Developed Countries

Although Scotland appears untypical alongside other advanced economies (see *fig.1*), more detailed comparisons reveal a different picture. Scotland, as Table 1 shows, is at the forefront of a phenomenon occurring throughout the developed world. In his review of ageing in Europe, Coleman (2001) shows that many European countries will, in the near future, be in a similar position to that of Scotland. From *Table 1* it is clear that the Scottish population is declining but by 2025 the rate of natural decrease is expected to be far more in Spain, Italy and Germany imply higher negative percentage growth in these countries. It also appears that health is a major issue for Scotland as shown by the increase in life expectancy at birth to 80 years still below the comparators countries shown in Table 2. However, in terms of rates of growth of in life expectancy a 6 per cent rise over a 25 year period is encouraging and is on a trajectory for improvement to the levels of those countries listed. Even although life expectancy in Scotland is lower than the other countries in the table the percentage of the Scottish population over the age of 60 is currently above the median of the countries in *Table 1* and is expected to remain above the median in 2005.. It is of concern that the proportion of the population drop over the next 20 years in Scotland is far higher than comparator countries.

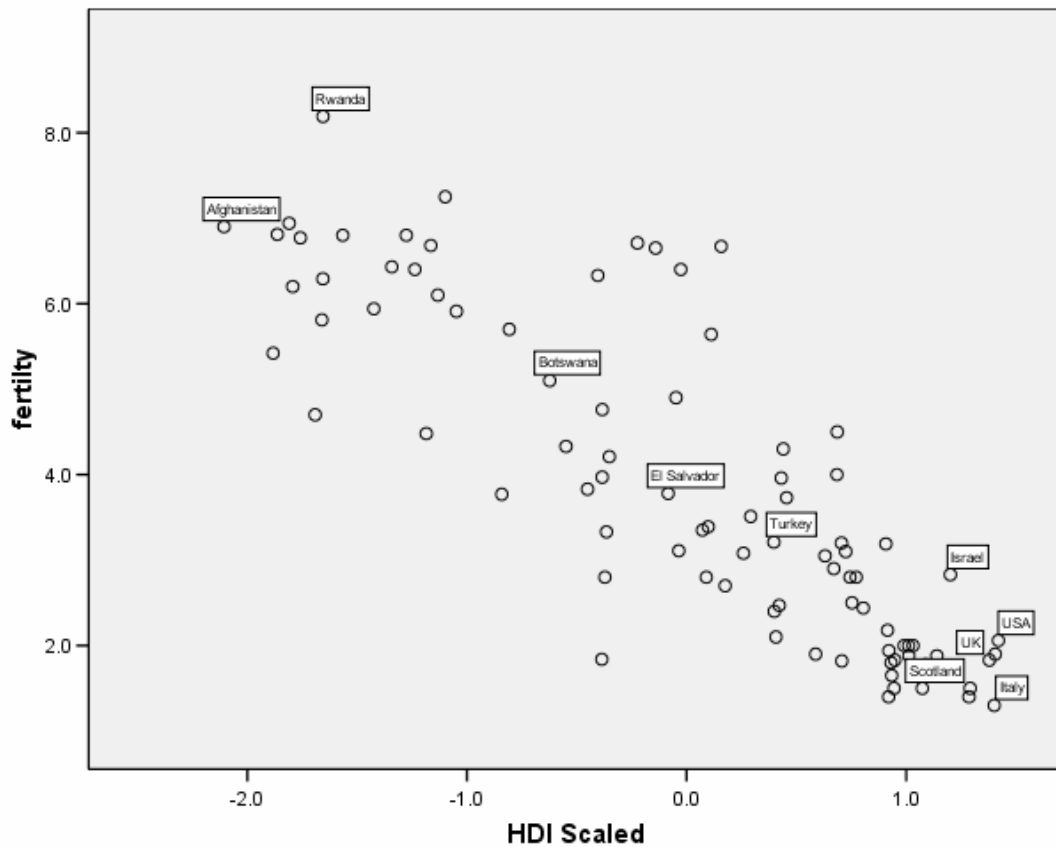
What are the drivers of change?

It is well documented that as societies have become more affluent, their fertility has fallen. Bongaarts and Watkins (1996) relate these changes to what they term the 'Human Development Index', which is a composite of GDP per capita, female life expectancy at birth, and female literacy rates. The relationship is displayed in *figure 8* using the first principal component of GDP per capita, female life expectancy at birth and female literacy rates to measure a scaled version of the human development index.

Further, Bongaarts and Watkins argue that there is a mutual reinforcing of fertility trends amongst countries of similar social, belief and cultural systems, and from this a social norm related to fertility is established. Thus in Europe a social norm has become established which runs contrary to large families, and marriage dissolution is

perceived as socially acceptable. It will be difficult to break from this pattern. In these countries lifestyles have become more hedonistic and increased affluence has given rise to expectations of engaging in a consumer society typified by conspicuous consumption. This has led to the development of popular culture bolstered by an ever more intrusive media which portrays the image of a lifestyle devoid of children. To put things bluntly, children get in the way of expectation fulfilment, not just for the cost of goods but in the sense of opportunity costs, since children take up time required to engage in the social activities implied by a consumer society. (For a more detailed argument see the works of Becker (1965), Ermisch (1982, 1995) and Joshi and Overton (1984))

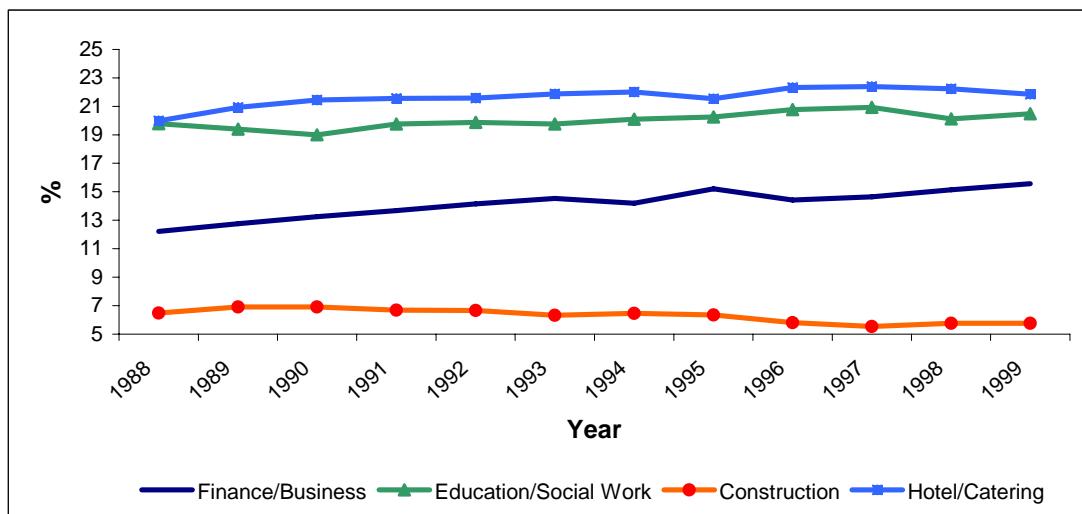
Figure 8: The link between affluence and fertility.



Source: Human Development Report (2001)

But these simplistic arguments are not the only reason why childbearing has become such a topical issue. As women have gained more autonomy and independence in society, they have engaged more in the workforce. This may have boosted consumption, but it has also contributed to the delay of marriage and the reduction of marriage rates, and hence also fertility. Increased affluence has increased expectations and, in times of economic slowdown, it becomes that much more difficult to justify a career break for child rearing. The impact of these widespread social changes has been compounded (in Scotland as elsewhere) by changing patterns of work. The replacement of unskilled work by career patterns which increase the importance attached both to prolonged periods of training and to an unbroken period of employment to gain experience and skills has further strengthened the tendency to delay childbearing. The changing balance between skilled and unskilled work is represented in Figure 9.

Figure 9: Changes in the proportion of the Scottish workforce.



Source: General Registrar of Scotland (GROS, 2003).

One aspect of the consumption culture that is especially striking in Scotland is the rise in home ownership over the last 30 years. It is used to be the case that the majority of people in Scotland lived in houses rented from the local council, but no longer. In 1979, 54.1% of the population were living 'social housing', but by 1998 this had fallen to 26.4%, while the owner-occupied sector grew from 35.2% to 61% over the same period. The struggle to raise the initial deposit and then meet mortgage payments may well be acting as a check to delay the onset of childbearing. In some

of the growing areas of Scotland, notably Edinburgh, where the population has been swelled by migration, housing shortages have led to huge and sustained increases in house prices. This has almost certainly exerted a significant downward pressure on fertility. And to this must also be added the direct and indirect costs of childrearing for parents. Children represent a very large proportion of household consumption in a modern society (Apps and Rees 2001).

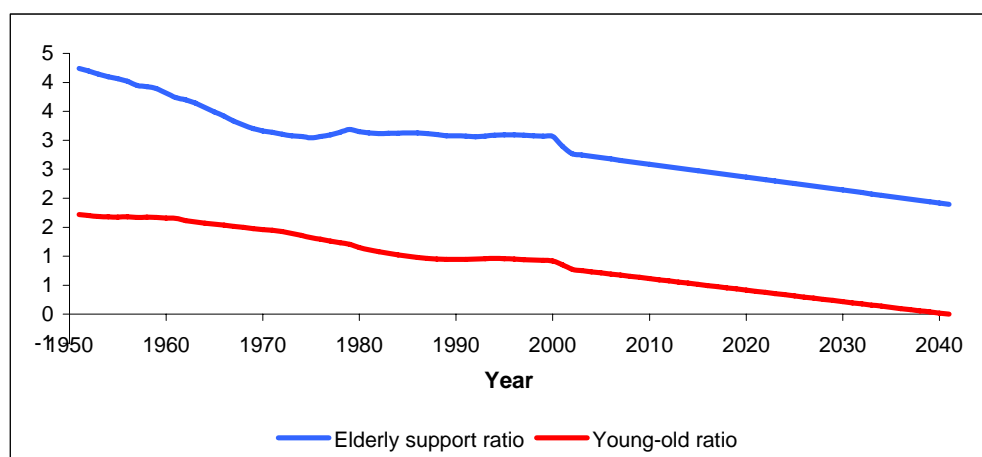
The other dimension to population ageing in Scotland is increased longevity: people are living longer. Since 1951, male life expectancy at birth has risen by nine years and for females by ten years. But Scottish females have the lowest life expectancy at birth in Europe and males the second lowest in Europe after Portugal (GROS, 2003). Hence, there is scope for further improvement, and there are vigorous campaigns to do this through improving the housing stock, diet, lifestyle and reduction of smoking (see Blades 2004; NHS, 2001).

Consequences of Population Ageing

One of the main reasons why population ageing is a cause of concern is that it will increase the relative size of the dependent population and its consequences as a potential increased “burden” on public pension provision and health care. *Figure 10* charts the changes in the ratio of those of pensionable age (taken as over 60 years) to those aged 15 to 59 years, and in the ratio of 0 to 14 years to those over 60 years, since 1951, including projections for the total population up to 2040.

One potential outcome of these trends is an increasing tax burden for those in the main productive age groups. The implications for health costs have been demonstrated by MacDonald et al. (2001) and Wood and Bain (2001), particularly with reference to an increasing number of older females living alone. As an example of the increasing demands for health care from older groups, Wood and Bain report that males aged 65 to 75 years consult their general practitioner’s 66% more than those aged 45 to 54 years, and the cost of prescriptions for males aged 65 to 75 are more than double those males aged 45 to 64 (Wood and Bain, 2001:61).

Figure 10: Percent changes in the elderly dependency ratio.



Source: Constructed from data GROS (2003).

The gloomy prognosis of inevitable demographic crisis has, however, been questioned in Scotland by Shaw (2002:4), who suggests that the impression of crisis has coincided “with the tendency to marginalize the elderly from the labour market and from society at large.” “The real issue”, he argues, “is not so much the fact that there are not enough people capable of working to support an elderly population. Rather increasingly older people find it difficult to find employment.”(6) The employment of older people has decreased faster than any other age group, and as a consequence one-third of men between 50 and 65 are now jobless in Britain.

Shaw is similarly sceptical about the fears for an increased health burden. People in Scotland *are* getting healthier, and those who are currently below the age of fifty have been brought up in a more health conscious society; as already stated, diet and housing have improved and generally there has been a sizeable reduction in smoking, although high smoking levels persist amongst young women. Scotland’s urban environment has improved enormously since the mid 1970s with the virtually universal enforcement of smokeless fuels. Scots are expected to live longer, healthier lives, which may also lead to longer working lives. If this is so, then the increase in both the pension burden and the demand on health services should be much less than suggested by some of the more pessimistic projections. The growing market for treatments and drugs associated with old age might have the effect of lowering the costs of health inputs.- Technological innovation in health provision should also have

a positive impact. This does not mean, however, that there are no serious concerns raised by an ageing Scottish population. Access to healthcare and pensions are likely to be a major problem. A particular concern is the gap between the poor and the affluent – social exclusion is a feature of several urban and rural areas of Scotland. This is particularly noticeable amongst the old. Pensions among the affluent have outstripped those of the poor. Falkingham (2002) illustrates this “rising inequality” in the median net income of pensioner couples over the period 1979 to 1996/7. Her data are presented in *Figure 11*.

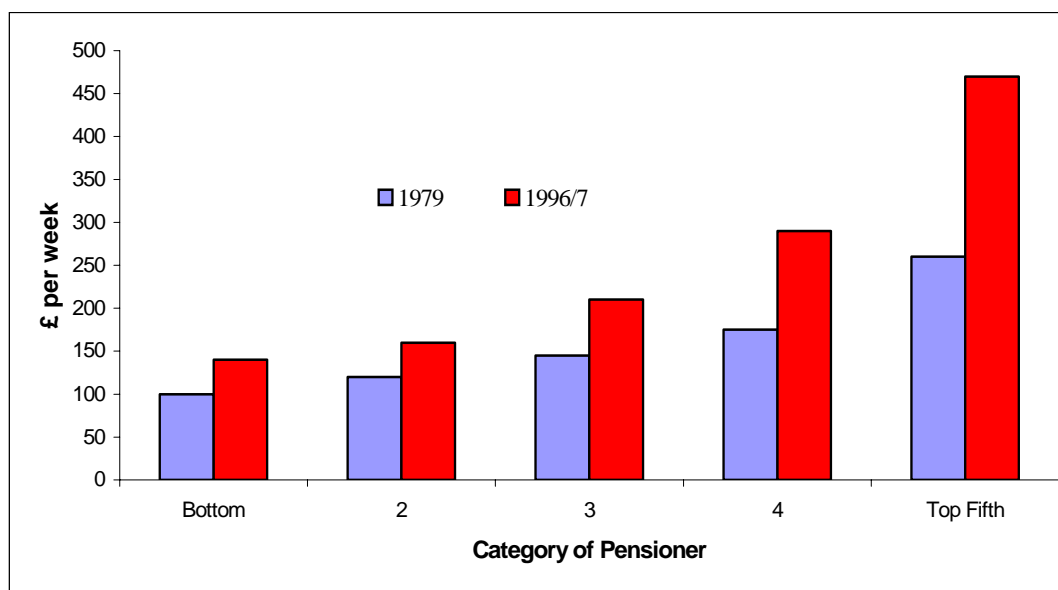


Figure 11: Median net income of pensioner couples, 1979 and 1996/7.

Source: Adapted from Falkingham (2002).

People in the top income quintile have seen their earnings rise much more than those in the lower quintiles, almost doubling in fact, whilst 40% of earners incomes have risen by around two fifths. This suggest an alarming potential rise in relative social exclusion amongst the old.

From analysis of the Scottish Household Survey, MacDonald et al. (2001) show that fewer than half of pensioner households are in receipt of an occupational pension, and as Vincent (1996) has pointed out, those who have made their own provision have not fared well and have often received poor advice. Thus a possible consequence of population ageing is an increasingly divided society. This will also manifest itself in

gender imbalances, as proportions of older women increase more rapidly than men (see Table 1). Currently the ratio of women over 75 to men over 75 is 1.86, i.e. almost 2:1 (for further discussion, see Henrard, 1996). Consideration should also be given to the changing roles of family members and intergeneration wealth flows. MacDonald et al. (2001) state that low reported income is most common amongst lone Scottish women over the age of 75.

The provision of education will clearly be affected. Already there have been closures and mergers of primary schools. In 1981 there were 2,418 primary schools while in 1999 this had reduced to 2 300. As the number of young decreases, the effect seen in primary schools will ripple through the educational system. Currently there are twelve universities in Scotland serving a standard university aged population of 316,500 of whom around 50% enter higher education. By 2020, this age group is projected to fall to 258,000. Universities have to change their market or disappear. There is talk of mergers, universities are looking to other age groups, and have entered the global market for education both in delivering educational programmes overseas and attracting students from outwith the EU to programmes delivered in Scotland. But the global market has become much tougher with increased competition. The education sector is a major employer in Scotland, so there are serious economic consequences.

The implications of population ageing for Scotland's educational system may be seen as part of a more general economic malaise that will have escaped few economic observers. The public sector currently employs some 585,600 people, (23.8% of the total Scottish workforce), but as the population reduces so will the number of public servants (Hughes and McPhee 2006). And as the population shrinks so will the domestic market for home-produced consumption goods, and the revenue that has been generated from these markets. Scottish companies will increasingly have to look to worldwide markets at a time when emerging nations with lower production costs provide fierce competition. Meanwhile, those who have invested in private pension schemes to top up company and state pensions have seen the value of their funds diminish as the stock market falls. Overall, Scotland's situation in respect of economic consequences of ageing in a global context is likely to be similar to other developed countries, as described in a recent OECD report (Turner et al., 1998).

The ageing population will also have profound influences on transport. There is ever increasing car ownership, and with the drift to urban centres congestion has increased. Edinburgh council is considering introducing a congestion charge, reflecting wider policy initiatives that seek to divert people from car use to public transport. The public system will need substantial investment and redesign to meet the requirements of an aged population. Older people already do not fair well in access to transport. As MacDonald et al. (2001) report, 37% of men and 59% of women aged over 65 do not have access to a car. Similarly the housing stock needs overhauling, and more single or double unit houses constructed with ensured ease of access (Wood and Bain, 2001).

Recent electoral patterns suggest that older generations will come to dominate politics even more than they already do. There has been a worrying downward trend of participation in elections amongst the young. Less than half the eligible electorate in fact voted in 2003 - 49%, down from 59% in 1999 Clarke et al. (2002) demonstrate that in 2001 the “sense of civic duty “ amongst those over 65 was more than double that of the 18 to 25 age group. Whether low participation and civic responsibility stick throughout the life time of those currently young is a worrying question.

Perhaps Julian Simon’s (1981) rather outspoken view that countries with growing populations may be more dynamic and innovative than those with declining populations will turn out to be right. There are, however, some positive outcomes from population ageing: there will be less need for high density living, more flexible working conditions may develop, and crime rates will decline (as will, hopefully, the prison population) as the number of young males is reduced.

Possible Solutions

The policy challenges of population ageing have been a focus of the UK’s Foresight programme, which recommended among other things, that older people take a more active part in the governance of the country (Dunnell, 2000). Issues raised include aspects of labour force participation, leisure and learning, finance, healthcare, design for living, and the use of information communication technology. Improvements in these fields presuppose increased deployment of capital that will allow economic growth to continue and provide support for the dependent population. Young (2002),

for example, is far from pessimistic about population ageing, arguing that standards of living as measured by GDP will double over the next 50 years, which could enable transfers of wealth in the form of voluntary bequests from an increasingly wealthy older population to their less numerous children. Young also demonstrates that it is the over 70 year olds that have the highest saving rates as a proportion of household income, and that this has increased since 1974. The UN's Economic for Europe states that there is a need for western economies to promote "equitable and sustainable economic growth in response to population ageing" (2002:5). Though, as the Economic and Social Council of the UN warns, "growth in itself will not be sufficient to address the distributional issues raised by population ageing, nor indeed is there any guarantee that growth will lead to socially acceptable outcomes" (2002:3)

The Economic Commission for Europe further argues that there is a need to "ensure full integration and participation of older persons in society" and "to promote a positive image of ageing and older persons, particularly of older women" (2002:2&3). If the old are to take an active part in all aspects of society, there is a corresponding need to combat all aspects of ageism (Jefferys, 1996). Such changes would allow participation in the workforce (and hence relief for the pension burden) only if barriers to labour markets for older workers are removed and their employability improves. However, as Taylor and Walker (1998) discuss, potential employers and the old themselves have considerable attitudinal barriers to overcome, since the percentage work participation of over 55s, whose has fallen continuously since 1951. In addition, active provision and participation in lifelong learning will be necessary. Davey (2002) gives an example from New Zealand, which shows that with participation in formal education the up-skilling of older people is possible and can promote "active ageing".

Building on the recommendations of the UK Foresight programme (Dunnell, 2001) possible solutions to the problem of ageing can be summarised in five broad initiatives:

- a. Increase participation in the workforce, which will involve promoting a more positive image of older people, ensuring that they have suitable skills

making work more flexible, and lowering barriers to those re-entering work. There is a need to combat ageist discrimination in the workforce.

- b. Promotion of healthy living, this involves adapting physical and transport infrastructures to allow independent living and increasing the number of public carers, especially as extended family networks have decreased. There will also be a need to raise the expectations of older people to take charge of their lives and to expect an increasingly long and healthy active lifetimes.
- c. Governments need to highlight the need for improved savings for retirement, to promote public/private partnerships and to increase the retirement age. There is a need, as well, to release older people's capital, which tends to be tied up in housing.
- d. There is a need to promote the inclusion of older people in society and to ensure that they are not disenfranchised in social and economic planning. Lifelong learning will help them to be more participative, but steps are needed to ensure that poorer elderly people from lower social classes can participate. [The following sentences need to be linked more explicitly to the inclusion issue raised in this point. The need to improve the health of the least well off should be another dimension of this initiative. Bernard and Phillips (2000) argue that there is a need for a government backed social policy. This policy, they state, should not be a policy which will give most help to retired people but "one which addresses the diversity of needs of an ageing population". Minichiello et al. (2000) in discussing "ageism" argue that to ensure older people are included in society there are many negative views which have to be overcome.
- e. Promote the image of Scotland overseas and reduce barriers to potential immigrants who can contribute to Scottish society and culture.

The Scottish Executive have placed much emphasis on the last point and in particular promoting the "Fresh Talent Initiative" which allows foreign students who have graduated at postgraduate level to remain in Scotland for a further two years in order to search for work and become established in the country, (Home Office 2006). However, Wright (2004) points out that to base a policy on immigration is very difficult, especially when it is not a devolved issue and remains controlled by the UK

government and expresses scepticism as to the likelihood of this instrument being successful.

To conclude there is a need for careful monitoring of the demography of Scotland and to implant policies to ensure the inclusion of the elderly. This need appears more immediate in Scotland than other European countries but in twenty five years time population profile of Scotland may well be the norm rather than the exception.

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Table1: Comparison of demographic trends in selected developed countries. *Source: US Census Bureau (2003), 2004 Projected Population of Scotland, Variant Projections Registrar General For Scotland*

Country/ Territory	Rate of natural increase (%)		Annual rate of population growth (%)		Total fertility rate		Life expectancy at birth		Percentage of population over 60 years					
	2000	2025	2000	2025	2000	2025	200	2025	2000			2025		
									Total	Male	Female	Total	Male	Female
Scotland	-0.11	-0.15	0.1	-1.4	1.48	1.6	75.5	80.0	21.0	9.0	12.0	30.0	13.4	16.6
United Kingdom	0.1	0.0	0.4	0.2	1.7	1.7	77.8	81.1	20.4	8.8	11.2	27.4	12.5	14.9
France	0.4	0.0	0.5	0.1	1.9	1.8	78.8	81.8	20.5	8.6	11.9	28.4	12.4	16.0
Germany	-0.1	-0.5	0.1	-0.2	1.4	1.5	78.1	81.2	23.2	9.5	13.7	32.9	14.8	18.1
Sweden	-0.1	-0.2	0.0	-0.1	1.5	1.6	79.6	82.2	22.1	9.6	12.5	30.3	13.8	16.5
Norway	0.3	0.1	0.5	0.3	1.8	1.8	78.6	81.7	19.3	8.3	11.0	26.8	12.2	14.6
Spain	0.1	-0.4	0.2	-0.3	1.2	1.5	79.1	81.8	21.7	9.3	12.4	30.0	13.2	16.8
Italy	0.0	-0.5	0.3	-0.3	1.2	1.5	79.1	81.9	23.8	10.1	13.7	32.5	14.4	18.1
Canada	0.4	0.1	1.0	0.6	1.6	1.7	79.1	82.2	16.7	7.3	9.4	27.7	12.5	15.2
New Zealand	0.7	0.3	1.2	0.5	1.8	1.8	77.8	81.2	15.4	6.8	8.6	21.8	9.8	12.0
Australia	0.6	0.2	1.0	0.5	1.8	1.7	79.8	82.3	16.4	7.4	9.0	25.6	11.7	13.9

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