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**Population Ageing in Industrialized  
Countries: Challenges and Issues**

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### **Introduction**

This policy monograph on Population Ageing in Industrialized Countries: Challenges and Issues is based on a seminar organized by the Committee on Age Structure and Public Policy of the International Union for the Scientific Study of Population (IUSSP).

IUSSP, the International Union for the Scientific Study of Population is the foremost international professional association dedicated to the scientific study of population. Its four basic objectives are:

1. encouragement of research into demographic issues and problems world-wide;
2. stimulation of interest in population questions among governments, international and national organizations, the scientific community and the general public;
3. promotion of exchange between population specialists and those in related disciplines;
4. wide dissemination of scientific knowledge on population.

#### **Box 1: Current and Recent Scientific Committees and Working Groups of IUSSP**

- Committee on Age Structure and Public Policy
- Committee on AIDS (1995-1999)
- Committee on Anthropological Demography
- Committee on Emerging Health Threats
- Committee on Fertility and Family Planning (1995-1999)
- Committee on Gender and Population (1996-1999)
- Committee on Historical Demography (1997-2001)
- Committee on Longevity and Health
- Committee on Poverty (in formation)
- Committee on Reproductive Health
- Working Group on Low Fertility
- Working Group on Urbanisation

- Working Group on Teaching
- Working Group on Forced Migration

The Scientific Committees and Working Groups of IUSSP are the principal means of implementation of the scientific programme of the IUSSP. Generally they have a life of about four years. Scientific Committees are active in well-defined fields of research whereas the Working Groups are often established in newer areas in which the Council of IUSSP thinks further development and definition of scientific issues is required.

IUSSP has published 17 policy monographs (see Box 2 for the complete list of topics) based on some of the seminars organized by the Scientific Committees and Working Groups. The policy monographs are primarily directed to policy makers at all levels. They should also be of interest to the educated public and to the academic community. The policy monographs give, in simple, non-technical language, a synthetic overview of the main policy implications identified by the Committees and Working Groups. The contents are therefore strictly based on the papers and discussions of these seminars. For ease of reading no specific references to individual papers is given in the text. However the programme of the seminar and a listing of all the papers presented is given.

#### **Box 2: IUSSP Policy and Research Papers**

1. Contributions of the IUSSP to the International Conference on Population and Development (1994)
2. Population and Deforestation in Humid Tropics (1994)
3. Health and Mortality Trends among Elderly Populations: Determinants and Implications (1994)
4. Toward a more Effective Policy Response to AIDS (1994)
5. Women's Roles and Demographic Change in Sub-Saharan Africa (1994)
6. Evaluation of the Impact of Health Interventions (1994)
7. The 1994 International Conference on Population and Development (ICPD) Context and Characteristics (1995)
8. Population and Environment in Industrialised Regions (1996)
9. Women, Poverty and Demographic Change (1996)
10. Population and Environment in Arid Regions (1996)
11. The Russian Mortality Crisis: Causes, Policy Responses, Lessons (1997)

12. Men, Reproduction, and Fatherhood (1998)
13. Female Empowerment and Demographic Processes: Moving Beyond Cairo (1998)
14. Data and Decision-making - Demography's Contribution to Understanding AIDS in Africa (1998)
15. Abortion, Women's Health and Fertility (1998)
16. Gender Inequalities and Reproductive Health: Changing Priorities in an Era of Social Transformation and Globalisation (1999)
17. Men, Family Formation and Reproduction (1999)

## **Ageing and age-structure transitions**

Population ageing is conventionally defined as the increase in the proportion of elderly persons in the population. This process is currently taking place in virtually all the countries of the world. In the developed regions, for instance, people over 60 currently constitute about 20% of the population (up from 12% in 1950), and their share is projected to exceed 30% in 50 years' time, and possibly reach 40% in some countries, like those of Southern Europe, for instance. Even allowing for the uncertainty of every forecast, these proportions are by far the highest ever recorded in the history of population, and this is a cause for concern. The developing regions, on the other hand, are and will keep on being considerably younger than the rest of the world, but their ageing process is generally more rapid than elsewhere, and rapidity of changes in demography may be a problem in itself.

Why are these changes taking place, and why so quickly? Ageing is one of the consequences of the demographic modifications that started to take place some two hundred years ago, but which have intensified in the most recent decades: the decline in mortality and fertility rates<sup>1</sup>. The relative importance of these two underlying forces on ageing is still controversial, and, in all cases, context dependent, because, while lower fertility always causes an ageing of the population, higher survival may cause a rejuvenation (i.e., an increase in the proportion of the population which is young) in societies where mortality is high. However, the higher is the starting level of survival, the more sharply do improvements in survival accentuate the ageing of the population. The picture is complicated by the fact that fertility and mortality are interconnected, and may not change independently of each other.

On the other hand, it should not be forgotten that the very notion of ageing implies the use of a threshold to separate the elderly from the non-elderly population. Obviously, every threshold is in large part conventional, and therefore arbitrary. An important aspect of the ageing problem is that once the initial choice of this threshold is made (e.g. 60, or 65 years), there is a strong tendency for it to remain fixed regardless of progress in the average length of life or health of the elderly.

In other words, while ageing is caused by low fertility and better survival chances at all, and especially older, ages, its perception and the problems that seem to derive from it are

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<sup>1</sup> Migration generally plays a minor and somewhat ambiguous role. Since migration generally takes place at relatively young ages, in-migration generally produces a rejuvenation, while out-migration has the opposite effect.

probably exacerbated by our inability to adapt our concepts and our measures of ageing to evolving conditions. As survival conditions and health of the elderly improve, we should consider a gradual increase in all the thresholds for old age, both statistical and legislative. In particular, improved health conditions among the elderly (see below) call for more flexibility in both the normal and the compulsory retirement age, the latter being a juridical category that might even be considered for elimination, at least in some economic sectors.

Living arrangements, network of kin and gender issues

Ageing is one of the most important changes in population structure currently taking place in the developed (and, as mentioned, also in the developing) countries. But other structural aspects of population are changing too, and since the effects that these changes produce sometimes interact with those brought about by ageing, they should not be disregarded. Modifications in the 'marriage market' and patterns of partnership will interact with ageing to significantly affect the living arrangements and standard of living of the elderly of the future. Take the issue of people living alone, for instance: these are generally considered to be persons 'at risk', because they are more frequently poor and, since they lack assistance and support from co-living relatives, they are more likely to require public health resources when they are sick. Unfortunately, forecasts indicate that the number of lone elderly is likely to increase. Why? Micro-simulations suggest that this is the result of contrasting forces. On the one hand, longer life expectancy, *per se*, would tend to reduce the frequency of single-person households, or of individuals without kin, at all ages. Widowhood, for instance, diminishes if everybody lives longer, and so also cases of orphanhood or death of a relative. On the other hand, lower nuptiality and increases in divorce and childlessness act in the opposite direction, and tend to produce the two distinct, but related effects mentioned above: an increase in the proportion of elderly people without close relatives (the thinning of kin networks), and an increase in the proportion of old people living on their own.

Both effects are perceptible today, although with variations depending on the country and on the age group considered. Because of the counteracting forces in the form of increased survival of spouses and kin, changes have been relatively gradual thus far, but they are projected to accelerate in the near future.

The absence of close kin may also depend on the rise in divorce, sometimes followed by remarriage. Because of the growing proportion of out-of-wedlock births even traditional

family links may be getting thinner, and less dependable in case of need. The classic example is that of a divorced (or, simply, no longer cohabiting) father and his children, but we should also mention contacts between these children and all of the father's relatives. In most cultures, contacts with grandfathers (and aunts/uncles, cousins, etc.) used to be and often still are frequent and close, but rapid change in recent times suggests that the future network of kin may be very different from that in the past.

This thinning of contacts may produce harmful consequences in the phases of life when we are least able to provide for ourselves. Children may lack important support in their youth, both in terms of company and socialization, and in terms of availability of economic resources. Later - and it is here that this process interacts with ageing - older adults may be unable to obtain the help and support they need from the children with whom their earlier contacts have been so sparse.

It is possible that such fears are exaggerated. For instance, living arrangements may not be critical - 'proximity' is a possible, and indeed frequently preferred alternative to cohabitation. This means that children may live relatively close to their elderly parents - for instance within half an hour's travelling distance - and therefore be available for support when needed. Also, to live alone does not imply being or feeling abandoned: for instance, telephone contacts with children may be frequent, and friends and neighbours may offer a valid supporting net, especially in relatively small centres. Finally, most of those who live alone seem to do so of their own free choice: their health and financial resources permit them to avoid having to share their dwelling with others, who - they fear - would limit their privacy and independence.

The potential vulnerability of the aged (especially the very old) and the limitations of existing safety nets are of particular importance to women. Women, who outlive men, and who typically marry older men, are disproportionately represented among the elderly, and particularly among those who live on their own. These women are in many senses vulnerable: their health may be poor; their financial conditions difficult; their network of kin and friends insufficient.

Gender issues also emerge at the other hand of the chain of social support. Until a relatively recent past, it was primarily young and adult women who stayed at home and looked after older members. Nowadays, with the increase in labour market opportunities for women in the developed countries, and with men still contributing little to indoor domestic

tasks (including care of elderly kin), women's time is frequently squeezed under a double load. The combination of innovation (i.e. the emergence of new labour opportunities) and tradition (i.e. the still strong expectations that women fulfil traditional roles) translates into more - sometimes many more - hours of work for women than for men in all of the industrialised countries.

### **Health issues and health expenses**

A large concern connected with ageing is that of health, in two main senses. Will those who survive to advanced ages suffer from poor health? And in case they need expensive health treatments, will they have the resources to pay for them?

These issues do not fall exclusively within the domain of demography: they depend also on several other dimensions, like for instance the progress of medicine, or the extent of public intervention in the field of social protection.

The most recent medical indications appear favourable. Increases in longevity have been accompanied by improvements in life quality, measured on the basis of both objective and subjective indicators. And although some health-related needs have increased - a prominent example<sup>2</sup> being the need for long-term assistance for elderly - on average, people seem to be in relatively good health until very late in life.

In principle, this should alleviate the worries of those who expect dire consequences from the ageing of the population. The idea is that, since health needs and expenses have a marked J-shaped age-specific profile - with the young and, much more so, the elderly proving particularly demanding in this respect - in times of rapid population ageing health expenses should increase on purely compositional grounds. On the other hand, if health conditions improve over time, the cost profile should become progressively lower, and the final outcome is a priori ambiguous.

Empirical data, however, reveal that everywhere in the industrialised world health expenses are on the rise, more than would have been predictable purely due to ageing. Thus some other factors must be contributing to inflate health expenses.

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<sup>2</sup> Some countries, like Germany and, more recently, Japan, have introduced a compulsory public insurance against long-term disability, in the attempt to shift the risks and the costs away from the affected families, towards society at large. These experiences, however, are still short-lived, and their results cannot be assessed with any degree of certainty.



One possible explanation is that health expenses are viewed as 'luxury' goods and are allotted increasing shares of one's budget as economic conditions improve. Since economic conditions have generally been improving in the developed societies (and particularly so among the elderly), an increase in health expenses may well be a purely 'natural' consequence of increased economic well being.

But it is not only demand effects that come into play. Modern drugs, treatments, and tests are superior to those previously available, but progress is always obtained at a price. A possible way of interpreting these developments is that the struggle for longer survival achieved the relatively easy and cheap results first, but that every additional year of life is now costing, and is in the future going to cost, more and more in terms of research and experiments, and therefore also in terms of monetary outlays. Also to be kept in mind is that some new drugs and treatments do not lengthen life, but improve its quality greatly.

The worrying side of the story is that, with increasing constraints imposed on government budgets - and, consequently, also on their social component - a growing share of the burden of health expenses is being passed back to families. This creates the potential for an increase in inequality in health, which is already relatively high (e.g. in terms of differences between ethnic or social groups), and which does not seem to have diminished in recent years, despite the generalized improvements in survival chances and health conditions.

In principle, a solution with which almost everybody agrees is as follows: let societies define a minimum health care basket that will be provided publicly (i.e. for free, or with subsidies) to all those who need assistance, and let those who desire extra, 'luxury' care pay for it - possibly through private insurance contracts. In practice, however, things appear to be much more complicated than this. There are issues of efficiency (and international statistics prove that, among the developed countries, health expenditures, while varying greatly, bear only a very loose relation to mortality levels and trends), of solidarity (including intergenerational solidarity), of moral hazard in the public health sector (the availability of subsidised care encouraging unnecessary doctor visits and the like) and of adverse selection in the private health sector (those who apply for insurance contracts will be unhealthier than the population at large, leading insurance companies to raise prices and seek to insure only the best risks).

Health issues cannot be dissociated from issues concerning the living arrangements of the elderly. The demand for formal health care is inversely related to the availability of

informal, family help (but the reverse is also true: those who are in better health conditions are more likely to live on their own) so that health issues are not independent of other processes in the society, like household formation and dissolution.

Finally, mention should be made of the fact that women, who live longer than men on average, not only spend a longer part of their life without any supporting partner to rely on in case of need, but also suffer from worse health conditions throughout their life, and especially in their late years. The health issue is, in part, also a gender issue.

### **Ageing and the economy**

Ageing exerts an influence not only on social and health variables but also on several aspects of the economy. Although these are strictly interconnected, it is perhaps preferable to organise the discussion around three main themes: production, redistribution of resources through the public sector, and intra-family redistribution of resources.

#### **1) Ageing and production**

Contrary to widespread concern, ageing does not seem to exert a negative effect on production or economic growth. Labour productivity, for instance, although difficult to measure at the individual level, does not appear to decline significantly with age - or, at least, not within the normal working age range. Older workers, who feel more closely connected to their company, have greater experience, and, despite slightly worse health conditions, are less frequently absent from work, do not perform worse than their younger colleagues, on average. They are frequently discriminated against by employers (for instance selectively dismissed, or encouraged to retire, or not recruited at all) not because their productivity is low, but because their cost is high. This, in turn, is linked to seniority rules which in general make older workers more expensive, not only because of a rising salary rooted in tradition, but also because of the high cost of benefits (especially pensions and health insurance) which, in certain countries (like Japan, for instance) determine most of a worker's costs. Therefore, the ageing of the work force, especially in view of the probably necessary increase in the standard retirement age, is likely to require a redefinition of seniority rules. Ageing could exert a negative influence on productive activity in a more indirect way: for instance, if some young people are unable to work because they must provide support to elderly kin in poor

health. But empirical evidence does not lend support to this fear: this effect, if present at all, seems to be rather limited, even in Japan, where family obligations are particularly binding.

The effects of ageing on saving and, hence, on economic growth have long been a matter of concern and dispute among economists. The evidence is mixed: aggregate data generally show that ageing brings about a decrease in national saving, but micro-data fail to support the view that 'old' households save less, or at least significantly less, than others. In part, this may be due to the circumstance that data on income, consumption and saving are available only at the household level, and it is difficult to control for the several variables that simultaneously come into play: number of household members, individual characteristics of each of them (age, sex, work status, health conditions, etc.) and characteristics of the household (place of residence, presence of one or more families, etc.). However, introducing a few simplifying assumptions (e.g. that only the demographic characteristics of the head of the household matter), it seems that ageing *per se* exerts only a relatively minor influence on savings, which depend mainly on other variables, like the relative share of multigenerational households in the society (or more simply the average household dimension), the intergenerational flow of resources (typically bequests, and inter-vivos transfers from older parents towards young adults), etc.

Moreover, in most of the industrialised countries it is likely that the work force will stagnate, or even decrease in the future. In this context, slowing down the rate of capital accumulation, or even reducing the capital endowment of the economy may prove perfectly compatible with the preservation of the 'usual' rate of economic growth. This means that a slightly declining rate of saving, even if it were to materialize as a consequence of ageing, would not necessarily prove detrimental to the economic performance of the affected country.

In short, the fact that the industrialized countries are experiencing smaller rates of growth than in the past does not seem to be a direct consequence of ageing. More generally, neither theory nor data provide sufficient support to the notion that ageing may negatively affect output and production.

## **2) Ageing and the re-distribution of resources**

Modern societies re-distribute a large share of the resources they produce: currently, social security expenditure reaches 27% of GDP in Europe (up to 33% in Sweden), and this share is

substantial although lower in other developed countries. With pensions and health accounting for about (45+35=) 80% of these social expenses, there is reason to fear that ageing will lead to a further increase in 'social' outlays, implying higher taxes on labour and therefore discouragement of economic activity. However, this need not happen.

Public pensions, and also health expenses (as discussed before), depend on the rules that each society adopts. In times of rapid structural change, these rules may prove inadequate and, depending on the circumstances (e.g. degree of social cohesion, flexibility of the law itself, etc.), adapting them may prove more or less difficult, but it is likely that necessary changes will eventually occur - as it has empirically happened in recent years, with pension reforms being enacted almost everywhere in the industrialized world.

This is not to say that the transition will be easy: some expectations will not be fulfilled, some implicit promises will not be kept, and some groups will likely be affected more than others. In this sense, a smooth passage from one set of pension and health assistance rules to another set should ideally take place very slowly, and with ample social consent. On the other hand, the rapidity of the age-structural changes in the developed countries, coupled with delay in acknowledging the need for change, is forcing relatively rapid adjustments.

As mentioned, virtually all of the industrialised countries have recently revised their pension systems - some, actually, have gone through the revision process several times. Several behavioural and financial issues merit special mention: i) age at retirement; ii) risk of financial collapse for public pension systems; iii) portability of pension rights; iv) adverse selection in private annuity markets.

i) Age at retirement needs to be raised almost everywhere in the developed countries, taking into account the fact that people are living longer, on average. People in their fifties, or early sixties are generally healthy, and they could be very productive. While legal age at retirement is rising in many countries, effective age at retirement continues to fall across the industrialized world. As a result, surveys show that today's population over 55 is enjoying unprecedented levels of free time. However, since this result, desirable in itself, is in part reached at the expenses of other age groups (especially those up to 55 years), whose workload has not diminished in

recent years, a more balanced distribution of leisure and working time over the life course is probably called for.

ii) Under their present rules, public pension systems run the risk of collapse: depending on the country considered, if demographic and economic variables evolve in a sufficiently unfavourable way, outlays may outpace contributions, and cause a major crisis. Even if this unfortunate scenario should materialize, the consequence is not, by necessity, a discontinuation of the system: it is more likely that, some time before the crisis explodes, measures will be taken to avoid the worst, e.g. an increase in payroll contributions, or a lowering of pension benefits, or a raising in the retirement age, etc. But the basic question is: is the current legislation viable in the long run, or will it have to undergo revision? What is the likelihood that it proves unsustainable, within a predefined lapse of time? Most demographic projections cannot answer this question, and this is one of the fields where additional scientific efforts and research are required. As a general proposition, pension systems that guarantee the elderly a fixed standard of living are sustainable without increasing payroll contribution rates, whereas those that attempt to link the income of the elderly to the income of the young require rising payroll contributions in an ageing population. Most of the observed deterioration in public pension system finances in industrialized countries has not resulted from population ageing per se, but from rising benefit levels. On the other hand, these rising benefits have been associated with major improvements in the economic well being of the elderly.

iii) Portability of pension rights. Most pension systems were conceived and developed under totally different demographic and economic conditions, and they do not always fit well with the way the world is changing. Not all pension plans admit (full) portability, and this contrasts with the need that frequently emerges for job, and sometimes also geographical, mobility. The same kind of rigidity is placing elderly divorced women at risk of future destitution. When the traditional family model held, at the death of the head of the household, his survivors, and especially his former wife, had the right to a survivors' pension, which protected them from poverty. With the not-so-recent developments in the marriage market discussed

above (divorce, remarriage, cohabitation, presence of step-parents and step-siblings, etc), portability rules are often poorly, and generally too strictly, defined. Therefore, women who did not participate in the labour market in their adult years - implicitly counting on the protection that extended from their husbands to themselves - but who later divorced, and lost first the support of their husband, and later their survivor's pension, run the risk of ending their life in poverty. Already, statistics indicate that households headed by single women (especially if old, or with children, or both), are those most at risk of financial distress.

iv) Because of the financial difficulties of public pension systems, several countries have developed supplementary private pension plans, with different modalities. These developments, however, do not automatically solve all the problems, and share with the privatization of health insurance two characteristic difficulties: how to assure old-age income of the lifetime poor, who cannot possibly afford to save enough to provide for themselves in old age, and how to cope with adverse selection in annuities markets. It is those who perceive that they will live longer than the rest of the population who will wish to purchase annuities, implying that nationally available life tables are not applicable for those seeking insurance. Insurance companies respond by charging unfairly high prices for annuities or engaging in practices such as "cream skimming" to avoid insuring high risks. Either way, significant portions of the population end up unable to buy annuities or being able to buy them only at unreasonable prices.

### **3) Intra-family redistribution of resources.**

One of the most important channels for the redistribution of resources among generations (and, to a smaller extent, among social groups, through inter-group marriages) is the family. As a consequence of the modifications in households and families mentioned above, this channel is changing and losing importance. Unfortunately, it appears impossible to draw any firm conclusion at this stage: internationally comparable data are still limited, and the changes in family and household structures that are taking place are often difficult to document. For instance, in household budget surveys no information is typically available on

the income of related households - for instance, that of a divorced partner or of adult children living nearby – and on the inter-household transfers that may be operating.

Part of the exchange that generally takes place within a household involves an exchange of services - that is of time. Time appears to be a particularly scarce resource for those who have traditionally provided most of the input within households and families in this respect: adult women. Women are being crushed under the double burden of increasing participation in the labour force and traditional family chores, and this is part of the reason why traditional families are disappearing. The elderly population in need of care is caught in a predicament – the State is reluctant to assume responsibility for care, families and kin have insufficient time, and the chronically ill elderly themselves have insufficient economic resources to purchase needed care through the marketplace.

In contrast to the working-age population; the population aged 55 and older now has much more free time than ever before. This will change if countries reconsider the policy of early retirement they have pursued (or at least not discouraged) until relatively recent times, but the fact remains that the young elderly of both sexes generally enjoy relatively good economic conditions and unprecedented free time. Whether the latter resource will be ‘wasted’ (e.g. watching television) or usefully exploited (e.g. to develop a network of solidarity, through the kin network, or through volunteerism - an important part of what has come to be known as ‘active ageing’) is something which will depend on each country’s characteristics and capacity.

## **Seminar on Population Ageing in the Industrialized Countries: Challenges and Responses**

List of the papers presented at the Seminar on 'Population Ageing in the Industrialized Countries: Challenges and Responses', organised by the IUSSP Scientific Committee on Population Age Structure and Public Policy, in collaboration with NUPRI (Nihon University Population Research Institute), held in Tokyo, Japan, from 19 to 21 March 2001.

### **Session 1: Overview**

Ian Pool:

*Age structural transitions in industrialized countries*

Nico Keilman:

*Age structural transitions in historical perspective; or what can we learn from the past?*

### **Session 2: Age structural transitions and the family**

Andrew Mason, Naohiro Ogawa, and Takehiro Fukui:

*Impact of generational transfers on household savings in Japan*

Michael Murphy:

*Family and kinship networks in the context of aging societies*

Naohiro Ogawa, Robert Retherford, and Yasuhiko Saito:

*Care of the elderly and women's labor force participation in Japan*

Emily Grundy:

*Newly emerging issues in the provision of elder care in EU countries*

### **Session 3: Age structural transitions and the government**

Deborah Freund and Timothy Smeeding:

*The future cost of healthcare in ageing societies*

Shripad Tuljapurkar:

*Risk metrics for the management of social security programs*

### **Session 4: Age structural transitions and the market**

Landis MacKellar:

*How much does demographic uncertainty affect the long-run global economic outlook?*



Lawrence Carter:

***Long-run relationships in differential U.S. mortality forecasts by race and sex: tests for cointegration***

David G. McCarthy and Olivia S. Mitchell:

***Mortality and adverse selection in international annuities markets***

Atsushi Seike:

***The impact of mandatory retirement and age limitations of job openings on human capital loss under the ageing population***

Anne H. Gauthier and Timothy Smeeding:

***Changing patterns of work and leisure among the elderly***

### **Session 5: Changing status of the elderly in industrialized societies**

Jenny Gierveld:

***Feminization of the aged population: issues and prospects***

### **Session 6: Newly emerging research opportunities**

Kevin Kinsella and Thomas Juster:

***NAS panel report on new data for an aging world***