Aging of the Elderly: Can an Intragenerational Funding Approach Help Society Cope with Improved Longevity?

Susan St John, Ph.D.
Yung-Ping Chen, Ph.D.[1]

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[1] Susan St John, Ph.D., Senior Lecturer, Economics Department, University of Auckland, New Zealand, and Yung-Ping Chen, Ph.D., Frank J. Manning Eminent Scholar's Chair, Gerontology Institute, University of Massachusetts Boston, MA.

Abstract

The persistent gains in longevity at older ages: "aging of the elderly," along with the imminent retirement of large baby-boom cohorts, imply that new ways will be needed to encourage the elderly themselves to fund more of the costs associated with old age. Based on current trends, the costs of pensions and health care for the retired are likely to outstrip the willingness and capacity of the working population to pay. This cost burden, most obvious in pay-as-you-go programs for pensions and nationally funded health care systems, is not necessarily alleviated by pre-funding or other financial maneuvers. Indeed, there are few economically sound ways to reduce the burden on the working population. Under conventional arrangements, the costs fall largely on the working population through either higher taxes or direct familial support. Promoting individual responsibility by encouraging personal saving can only go so far, and in any case is not likely to have much impact on the accumulated assets of many in the baby-boom cohorts.

In many countries, apart from a good deal of rhetoric about the need to increase private saving, there has been little discussion to date about the role of social insurance. This perhaps reflects the conventional thinking popular in countries like the United States and New Zealand that the market itself will solve the problems without a need for rethinking the public/private interface issues. While it is true that the 21st century brings improved average living standards, at the same time it brings greater personal risk, at least for the many who are only modestly well-off rather than wealthy. Currently, in countries like the United States and New Zealand, social security and means-tested social assistance programs for long-term care protect the living standards of the poorest. The wealthiest have always been able to look after themselves, but middle-income groups face under-appreciated risks, such as outliving capital or needing long-term care. This is becoming even more critical as private pensions become less common and user pay elements increase in health care financing. At age 65, individuals have a 50 percent chance of living longer than the average life expectancy, and the spread of mortality around the average means that it is not an uncommon experience to live up to twice as long as the average. For those who require expensive health care, current practice of user pays can mean that individual estates are quickly depleted, imposing costs on some of the working-age population whose inheritances diminish or disappear. The challenges of funding retirement in the 21st century will require new thinking about these insurance issues by the actuarial profession. It is also important that suggested solutions are carefully designed to minimize work disincentives because working longer will be a key way in which the elderly themselves contribute to the costs of their aging, Using the United States and New Zealand as illustrations, this paper explores how an intragenerational funding approach might spread the risks from those older persons who live longer to those who do not live so long and from those who are healthier (or less dependent) to those who are less healthy (or more dependent).

As society continues to age, a greater share of society's resources has to be devoted to older people. This is inescapable. Intragenerational risk sharing has the potential to lessen concerns about intergenerational conflicts since it will be made clear that the elderly as a group are spreading the costs among themselves. The suggested intragenerational funding approach is intended as a supplement to, not a replacement of, existing programs that use the intergenerational funding approach.

1. Introduction

What might the golden (retirement) years look like in an ideal world? Perhaps all people would have not only sufficient money to allow them to participate in society in active ways and continue work in the labor market if desired, but they would also enjoy freedom from longevity worries. This means freedom from the fear of outliving one's capital, or facing asset depletion through catastrophic health costs, or feeling like a burden on the young. From society's viewpoint, the costs of aging would be shared, without creating an undue burden on the working-age population. While welfare states in the past were often reasonably successful in achieving these outcomes, they had their heyday in a very different demographic and economic environment. In the 21st century, population aging is associated with improving life expectancies at older ages so that the risks of longevity have become more acute both for society and the individual.

This paper takes a broad view of the conceptual issues around the issue of "who should pay" for the risks associated with improving longevity. Two countries, New Zealand and the United States, are used to illustrate how the concept of "intragenerational" funding may be used to respond to the challenges of aging in the 21st century.

While the United States is large and multi-state and New Zealand is small, geographically isolated and a unitary-state, both face similar economic pressures from the aging of the population. This pressure will become acute as the baby-boom generation retires between about 2010 and 2030.[2] The demographic shift is fueled by persistently large gains in longevity at older ages so that a dramatic increase in the numbers of the "old old" is expected by mid-century. The pressures will be felt predominantly in pension schemes, both public and private, and in the provision of health care, especially long-term care.

While declines in mortality may level off, with some researchers even predicting a possible reversal of average gains (Olshansky, et al., 2005), other projections suggest that due to breakthroughs in genetic research and biomedicine, longevity gains may actually accelerate, not slow (Anderson, Shripad & Nan, 2002; Lee & Haaga, 2002). If today's young, in fact, face reduced longevity and poorer health, while today's late middle age and older people expect to live ever longer, there will be even more of a strain on services for the frail elderly by mid-century.

To meet the needs of the retired, the United States has a social security pension based on payroll contributions backed by a subsistence safety net for those

[2] The old-age dependency ratio could quadruple within the lifetime of individuals born this year (Lee & Haaga, 2002).

who do not qualify. In New Zealand, all older citizens receive a flat-rate non-contributory tax-funded universal pension. Supplementary income provision from private sources is important in both countries, and in both countries, a mix of private payments and means-tested public funding is used to pay for long-term care.

One of the most promising solutions to the economic pressures is for older people to work longer, both to support their own eventual retirement by having more resources and to provide an additional tax contribution for the funding of the retirement of others. In the context of the insurance issues addressed in this paper, it is important not to impede desirable workplace participation or other useful economic activity. By improving the security and certainty of income for older people, their ability to contribute both to paid work and unpaid work may actually be enhanced. New thinking is required to address the problem of means tests that have become a part of the long-term-care system in both countries and have undesirable incentive effects of many kinds.

Section 2 discusses current arrangements for the aging of the elderly in each country. Section 3 provides a brief summary of the nature of the longevity risks. Section 4 discusses various intragenerational funding approaches that might spread the costs of aging more widely among the elderly themselves. Section 5 comes to some conclusions about the relevance of the intragenerational approach.

2. Current Arrangements

Most of the income and health needs of the elderly are met from intergenerational transfers from the young in pay-as-you-go (PAYGO) Social Security in the United States and in tax-funded arrangements in New Zealand. These major transfer programs have been extremely successful in bringing about a dramatic decline of the percentage of those over 65 under the poverty line in both countries (Lee & Haaga, 2002; Ministry of Social Development, 2005). Many of the favored baby-boom generation have enjoyed unprecedented wealth accumulation in the post-war period, especially in housing, while many of the young experience rising debts and falling living standards. When the baby-boom generation retires between 2010 and 2030, the sharp contrast in generational fortunes will begin to crystallize, raising intergenerational equity concerns.

As in other countries, there has been a raft of suggestions to manage the transition to an older population structure. With reforms to pension systems, these proposals range from the partial privatization and incremental modifications of Social Security in the United States to partially pre-funding the state pension in New

Zealand. In contrast, relatively little attention has been paid to the financing requirements of long-term care in either country.[3]

In both countries there are severe pressures now in the long-term-care sector (Ashton & St John, 2005; Chen, 2006). In the United States a 2005 mini-conference on long-term care urged the White House to "address the state of elder care with the same commitment and energy devoted to other national crises" (White House Conference on Aging, 2005). In New Zealand, an angry long-term-care sector has been demanding immediate action on the run-down in funding and the closure of many long-term-care facilities (Taylor, 2005).

The use of private long-term-care insurance has been limited, with as few as 9 percent of adults over 55 with long-term-care insurance in the United States (Johnson & Uccello, 2005). In the case of New Zealand, the market does not actually exist. In both countries, means-tested state funding operates in a highly aggressive, complex and inequitable way to deplete the income and assets of long-term-care recipients, creating significant distortions in both the decision to save for old age and the form in which savings are accumulated.

Home equity release products have significant potential to provide a source of funding long-term care, but their use is almost non-existent for this purpose in both the United States and New Zealand. Moreover, new products have emphasized the use of home-equity release funds for lifestyle enhancements in early retirement, increasing the possibility that the costs of long-term care and other costs of improved longevity will be shifted to the young (Chen, 2001b; St John, 2004b).

2.1 Income in Older Age

Both countries have basic social insurance income schemes that are largely PAYGO and thus impose a direct and visible burden on the working-age population.[4] On average, approximately 60 percent of the total income of households of those aged over 65 comes from the state pension in New Zealand (Preston, 2004), while in the United States, around 38 percent of income of older persons is derived from Social Security (Chen & Scott, 2003). Middle-income retirees in both countries must supplement their state pension to have an adequate replacement income if living standards are not to fall.

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[3] Long-term care comprises the health and support services provided to the frail elderly either in their own homes, or in residential institutions or geriatric hospitals. At one end of the continuum of care there is the relatively inexpensive assistance with daily living at home, such as showering, cleaning, shopping, and cooking, while at the other end is 24-hour–a-day intensive nursing care. This paper focuses on the care provided in residential or hospital institutions, but the conclusions can be generalized to encompass the home care level as well. Currently, the costs of residential care are met from a combination of private contributions, social security pensions, and means-tested social insurance.

[4] This is not to suggest that prefunding or privatisation of these schemes actually reduces the real resource cost.

In recent times, income from employment has become more significant for retired households, with about 23 percent of total income for older persons on average from this source in the United States. However, by far the greatest share from this source is for those in the top quintiles (Chen & Scott, 2003).

In New Zealand, the raising of the age of entitlement to the state pension from 60 to 65 from 1993 to 2003, increased the share of income from paid work for those aged 60-64. However the share of income from employment in households of those aged 65+ rose only slowly, from 10.5 percent in 1991 to 12.6 percent in 2004 (Preston, 2004).

Occupational pensions have been more significant in the United States than New Zealand. In the future, however, it is far less likely that retirees in either country will have meaningful supplementary private pension income because companies have moved, or are moving, away from defined benefit pension schemes. Managing lump sums can be difficult when there is increasing uncertainty regarding how long to make the capital last and how to provide for extraordinary costs.

New Zealand is at the forefront of developed countries in the provision of a wage-linked basic flat-rate, taxable pension that supports a basic standard of living for all citizens (St John, 2005a, 2005c; St John & Willmore, 2001). Eligibility requires no retirement test. For retirees seeking to supplement the state pension with part-time work, the state pension provides an automatic fall-back position should unemployment, ill-health, accident or redundancy strike. Extra income is taxed at the marginal tax rate, which provides a small degree of "income testing" but does not involve the high effective marginal tax rates of welfare abatements.

While the state pension has an obvious income effect that may permit lower work effort, it has only a limited marginal disincentive effect on extra hours worked and asset accumulation. When unemployment, redundancy and ill health reduce work effort, the basic income floor remains. Moreover, the pension is indexed to wages, not prices, once it reaches a wage floor, so that relative living standards are maintained.

In contrast to the New Zealand basic pension, the U.S. scheme is contributory, earnings-rated and only partially taxed. When social security and private sources fail to provide for some individuals, public welfare (Supplemental Security Income) serves as a safety net.

On balance the New Zealand basic pension design may be more conducive to encouraging workplace participation and phased retirement, largely because it is at a sufficient level to preclude the need for income-tested supplements for most retirees and is paid regardless of other income and whether the retiree works.

2.2 Long-Term Care

Traditionally, most long-term-care services have been provided by informal (non-paid) caregivers. However, such care has become much less available due to geographic dispersion of family members, increased labor force participation by women, fewer children in the family, more childless families, higher divorce rates, more single-parent families and inability of family members to care for others because of their own advanced age or their own health impairment. As the working-age population growth slows, the availability of informal caregivers is falling just as the numbers of the retired are set to rise rapidly with the retirement of the baby-boom generation. Consequently, the supply of home-care workers is an important issue; already there is evidence of shortages everywhere.

Another supply issue relates to the nature of needed long-term-care services. In both New Zealand and the United States, there have been criticisms against the so-called "institutional bias," which sees premature or inappropriate placement of disabled people in nursing homes. Concomitantly, there have been movements in all countries like New Zealand and the United States toward home- and community-based care. In New Zealand this policy is referred to as "ageing in place" (Ministry of Social Development, 2000). Encouraging groups such as school students and old people themselves to provide services to the elderly may be very helpful. But the success of aging in place largely depends on the training and quality and supply of professional home-caregivers. The costs of home-based care, along with the costs for those for whom institutional care is unavoidable, have fallen unduly on the working-age population to date and on the unfortunate families themselves.

2.2.1 The United States

Funding for long-term care is predominantly from Medicaid and private out-of-pocket payments, with minor contributions from Medicare and private long-term-care insurance. Medicaid, the largest source of funding (45 percent) for long-term care, is a welfare program paid for by general taxes. It pays for institutional nursing facilities, home health care, personal care services and adult day care for those meeting income and asset tests. Medicaid is payable only after the bulk of the person's assets have been exhausted.[5] Under Medicaid Waiver Program for Home and Community-Based Services, states may offer a broad range of home- and

[5] There are also a number of other federal programs that support long-term-care services. These sources include the Older Americans Act and the Social Services Block Grant Program, which both fund certain home- and community-based services. Various housing programs, including Section 202 housing for the elderly, Section 811 housing for the disabled, congregate housing and the newly authorized assisted living programs, administered by the U.S. Department of Housing and Urban Development, finance supported living arrangements for people with disabilities.

community-based non-medical support services to persons who would otherwise need institutional care.[6]

Medicare, a social insurance program funded by a payroll tax on employees, plays a more minor role. It primarily covers acute care and limited stays in nursing care facilities. Medicare also offers a home health benefit for those with medically related needs but covers only 14 percent of the costs of long-term care (Walker, 2005). Medicare's role in funding long-term care is expected to decline due to a 1997 law which is aimed at improving Medicare's long-range actuarial balance.
While Medicare is an entitlement program with automatic coverage based on eligibility, Medicaid is means-tested, with different levels of coverage based on income. Few middle-income people relish the thought of spending their assets down to the level at which they would qualify for means-tested assistance.

> *Medicaid eligibility policy is complex, making the program difficult for elderly and other low-income Americans to understand and for state Medicaid officials to administer (Schneider, Fennel & Keenan, 1999)*

One of the clear problems is the reliance on a program funded largely by those of working age:

> *Without fundamental financing changes, Medicaid, which pays for over one third of long-term care expenditures for the elderly, can be expected to remain one of the largest funding sources, straining both federal and state governments (Walker, 2005).*

As in New Zealand, the costs of long-term care fall unevenly and very harshly on the families involved. Private long-term-care insurance is available, but accounts for only a small part of the financing (Chen, 2001a). There has been a recent recognition that "government cannot do everything" and that "a public/private approach is necessary to create and implement policies that will provide access to quality long-term care and supportive services in an economical and equitable manner" (White House Conference on Aging, 2005).

2.2.2 New Zealand

Long-term residential care for the elderly in New Zealand is financed through a mix of general taxation and private payments, with subsidies being available for residents over the age of 65 years, subject to an income and asset test. Individuals are expected to pay up to a capped fee (around $NZ 36,000 per annum) from their own resources until assets are spent down to a low threshold. Once assets are reduced to

[6] For more description, see Tilly, Goldenson, & Kasten, 2001.

this level, any income must be used to pay the fee, with a state top-up when there is insufficient income.

As outlined in Ashton and St John (2005), the long-term-care industry is already in crisis from decades of underfunding.

> *Providers consider funding has consistently and increasingly lagged behind costs … leading to business failures, service cuts, suppression of wage rates, high labour turnover, inadequate return for risk and investment, and inadequate investment in workforce development. The problems are of such a magnitude that they cannot be resolved by small injections of funding (Ministry of Health, 2005b).*

Rather than look holistically at the financing problem, political pressures have focused attention on the operation of the means test for public subsidies for long-term care. In 2005, following six years of deliberation after a political promise to remove asset testing, the asset part of the means test was revised, putting in place much higher exemption thresholds for most older people in care from 2005 (Ministry of Health, 2005a). The impact of these changes will increase the costs met by the taxpayer and reduce the costs met by the elderly themselves.

Nevertheless, for middle income families, the asset threshold is still very low and the changes do not address the lack of insurance issue.[7] The universal state pension meets only around one quarter of the cost of long-term care.

3. Longevity Risks

To summarize, the two important risks faced by those over 65 are:

- The risk of excess longevity
- The need for long-term care and the run down in assets before any public program steps in.

The state pensions in both countries provide some protection for the longevity risk, but only at a basic income level. There is a 50 percent chance of living longer than the average life expectancy with a wide spread of mortality outcomes (Wadsworth, Findlater & Boardman, 2001). Managing a capital sum with a drawdown product to last for a lifetime whose length is so uncertain implies a seriously diminishing annual income for those who live a long time. Drawdown

[7] The means test had been widely seen as anachronistic and unfair; the changes do not address underlying design problems. The revised means test remains based on old models of family formation, and is not expected to reduce the use of avoidance mechanisms (Ashton & St John, 2005).

products based on average life expectancy can be a very poor solution for those who live longer than average.

There are few, if any, suitable annuity products to meet the risk of outliving additional capital, and no suitable private insurance products to meet the second risk. As noted, private pensions can be helpful but fewer employers are offering these and few of these pensions provide protection from the erosion of inflation.

The case for finding a solution to these market failures must be made on grounds of both individual welfare and public interest. Without insurance against these risks, it is likely that capital will be run down too early by those who live a long time, and the costs of supplementary income top-ups, long-term care and other age-related health expenditures will fall on the working-age population, either through higher taxes or as the families concerned meet the costs of their parents either directly or through receiving lower bequests. Means testing can lead to inappropriate divestment of assets too early in retirement and/or the setting up of trusts to disguise income and wealth. The costs of long-term care fall unevenly and unfairly on the unsophisticated, while the trust mechanism allows cost shifting to the working-age population.

Older people who die early may pass remaining assets down to the next generation, but the distribution of these bequests is likely further to widen the income and wealth distribution. Thus, without insurance to overcome these two risks, the impact on the working-age population is arbitrary and inequitable.

From the point of view of society, a requirement to annuitize a portion of wealth not only spreads the risk of longevity but prevents the early spending of lump sums and ensures an income stream to pay for at least some of the costs of health care and long-term care later in retirement. It is this thinking that lies behind compulsory annuitization in the United Kingdom, where extensive tax subsidies to retirement savings permit such rules.

Unfortunately, simply compelling annuitization without attention to design may simply force people to take unsuitable products. It can be argued this has been the case in the United Kingdom, where annuity rates have been falling for many years and annuities are highly unpopular. Pressure to move away from compulsory annuitization has forced a policy change so that in 2006 the pension pots do not have to be annuitized by age 75 as is currently the case. Nevertheless, the absence of suitable drawdown products for modestly well-off people means that annuitization is still the only option. Annuities are seen as a lottery, with the size of the annuity critically dependent on the time of retirement, the gender of the retiree, and the way in which inflation impacts on the real value.

There is a clear case of market failure both in the provision of suitable annuity products to meet the longevity risk, and in the provision of private insurance for long-term care. New Zealand provides a good case of what happens when there is no state intervention of any kind in these markets. With no compulsion to annuitize, no tax incentives in the accumulation phase and no encouragement of long-term-care insurance, the markets are thin or nonexistent. This suggests that faith in market-based solutions is misplaced and what is required is a re-envisioning of social insurance solutions.

4. An Intragenerational Funding Approach

The basic idea of intragenerational funding is that the elderly themselves could meet more of the costs associated with the risk of aging. The intent is to shift some of the burden from the working-age population by arrangements whereby the retired as a group would bear the reduction in consumption through the purchase of suitable insurance.

Intragenerational funding of the risks of old age, such as increasing longevity and long-term care through suitable insurance mechanisms, improves *intergenerational equity* by removing some of the burden from the working-age population. Without such insurance, taxes must be higher and certain unfortunate families must bear the disproportionate costs of the asset depletion of their parents. If parents not have enough resources and become dependent on their children, the children could in turn find it difficult to prepare for their own old age. The shifting and sharing of the burden can become an important rationale for the use of intragenerational funding approach for long-term care. This approach would serve to reduce the pressure on the working-age population by policies that spread more of the cost among the population aged 65 and over.

4.1 Intragenerational Models

The intragenerational approach reflects the view that individuals and their families, employers and governments should be organized into effective partnerships in an effort to provide cost-effective long-term-care services. This view recognizes the fact that no single sector in society (private sector or the public sector) has the capacity to bear the entire burden of long-term care. This is particularly true when a society is aging, since utilization of long-term-care services tends to rise with ever-enlarging proportion of older people.

There are two generic approaches to intragenerational funding models considered here. Neither of these is intended to replace existing PAYGO programs, but by supplementing these programs, these models offer the possibility that more of the costs are actually carried by the old as a group:

- The old as a group pay for insurance for some of their long-term-care costs by way of a reduced state pension
- The old as a group purchase an additional annuity to supplement the state pension that has a long-term care add-on insurance aspect

This approach could be useful in both countries and would be designed so that low-income retirees who are not able to afford to pay for any insurance product are fully subsidized as they are now by the state. Middle-income groups, however, might be attracted by a reduced rate of state pension that would be exchanged for the state meeting part of all of future long-term-care costs. While top income groups can self- insure, they too would be encouraged to participate. The inducement to purchase such insurance requires the retention of an effective means test on state provision.

In New Zealand, the current married rate of the state pension is about $NZ10,000 net for each person. This, together with another $30,000, is sufficient to meet the annual capped fee cost of long-term care. Based on the probabilities of needing care, a purely actuarial calculation at age 65 (averaged for male and female) requires an annual inflation-adjusted premium of about $500 (St John, 2004a), or around 5 percent of the net pension. This amount compares favorably with the costs of setting up trusts to hide assets to avoid the asset test for long-term care.

This voluntary option could be offered from 2011, either to just new retirees, or to the band aged 65-74. The saving in state pension costs could be used to help pay for the current costs of long-term care (and thus be a PAYGO scheme) or used to build a trust fund to be drawn on later. Figure 1 shows how the numbers in the younger old population are expected to rise.

Figure 1
Population aged 65-74

	2001	2011	2021	2031	2041
Aged 65-74	250,000	316,000	447,000	550,000	536,000

Source: Statistics New Zealand (Statistics New Zealand, 2004)

Under current medium assumption projections, there will be around 316,000 aged 65-74 by 2011. Assuming that the top six deciles insure by taking a 5 percent reduced pension, this would generate a sizeable contribution of NZ $90m in 2011,

with a possible doubling of the annual contribution by 2041 as the original retirees pass 75 and still pay annual premiums with a reduced state pension. To encourage participation, the asset and income test for long-term care should be strengthened by tightening up on ways to avoid the test through creation of family trusts.

As successive cohorts enter retirement, there will be a growing number of people providing these pension savings, and the funds could be applied on a PAYGO basis to care for a growing frail population. This option is attractive as it mimics the success that PAYGO schemes had with an increasing working-age population. One day the balance will shift, but that may be sufficiently far into the future for it to be of as little concern today as demographic ageing was in the heyday of social insurance.

In the United States, funding for these services relies heavily on personal (out-of-pocket) payment and public welfare (Medicaid) but only lightly on social insurance and private insurance. In 2000, out-of-pocket payment and Medicaid (and other public sources) defrayed nearly 80 percent of the total expenditures of $98 billion for those aged 65 and older, with social insurance (Medicare) and private insurance playing a minor role (Tilly et al., 2002). This method is akin to sitting on a two-legged stool, which is unlikely to be stable at best and unsustainable at worst, because it tends to impoverish many people and thereby severely strains Medicaid budgets nationwide.

Out-of-pocket payment—sometimes called self-insurance—fails to use the insurance principle of pooling risks. Self-insurance, by definition, is assuming the risk by oneself, rather than with others in a large group of persons exposed to the same type of risk. Medicaid is a joint federal and state program that provides medical assistance for the poor. The program is administered by the states and provides federal matching grants for a portion of the cost of medical benefits, solely from general revenues. Some analysts have regarded Medicaid as a public insurance program, but it is not insurance because it lacks risk pooling. Labeling Medicaid—a welfare program—as insurance appears to use the term in a vernacular sense ("something to fall back on"), rather than in its actuarial sense, in terms of risk pooling among a large number of persons exposed to the same type of risk.

It is possible to propose a new model in which social insurance and private insurance will pay for the bulk of the costs, supplemented by personal payments. Medicaid would be used for the truly poor, its original purpose. It may be called a "three-legged-stool" funding model (Chen, 2003).

Since new public and private resources for long-term care seem scarce, the proposed model suggests using our existing resources more efficiently by trading

resources dedicated for one purpose for another purpose. It may be called the "trade-off principle."

Applying the trade-off principle in the public sector, we could divert, say, 5 percent of a retiree's Social Security cash benefits (not payroll taxes) to fund a social insurance program that provides basic long-term care. This may be called a "Social Security/Long-Term Care (SS/LTC) Plan." With this plan, retirees themselves are trading some income protection for some long-term-care protection. The trade-off would enhance a retiree's total economic security. Low-income beneficiaries, though covered by the program, will be exempt from the trade-off. This program could pay for one year of nursing home care or two years of home care.

Since the social insurance program would provide the basic coverage, private long-term-care insurance would cost less than it does now and thus become more affordable to more people. The visibility of the SS/LTC plan could, in addition, serve as a catalyst to increase awareness of the need to prepare for long-term care. And people would finance additional care out of pocket.

Applying the trade-off principle in the private sector, we could purchase private long term-care insurance by linking it to life insurance policies or annuities; to employment-based pensions; to personal savings such as 401(k) plans or IRAs; and/or to home equity conversion products like reverse mortgages.

The trade-off principle is already being used in the private sector. For example, a person could buy an insurance policy that combines life insurance and long-term care, which pays for long-term-care expenses, if needed, by commensurately reducing life insurance benefits. Although available, this type of combination policy is not wildly popular. Perhaps there is a role for the government to encourage it.

The three-legged-stool funding model may be regarded as a policy approach that would simultaneously foster self-reliance (by means of private insurance and personal payment) and collective assistance (in the form of social insurance). Participation in the SS/LTC plan could be mandatory with an opting-out provision. That is, upon receipt of Social Security retirement benefits, people would be enrolled into the SS/LTC plan automatically, but they may opt out of it within a specified timeframe. Once opted out, an individual may not opt in again, however. Or, to avoid adverse selection against the state, people may be given a one-time opportunity to join SS/LTC plan, for example, at age 62, the earliest age eligible for reduced Social Security benefits.

Some may feel that the risk pool for SS/LTC, based on the current cohorts of Social Security recipients, might not be sufficiently large. However, as the older

generation grows in number in the next decades, the risk pool they compose will enlarge commensurately, making it a more viable group for pooling risks.

A possibility for New Zealand discussed by St John (2005b) entails a life annuity plus long-term-care insurance purchased with a single premium at 65 or 70. This could be made attractive and might capture a wide pool of annuitants. Those who die early and do not need care, along with those who live into old age but do not need long-term care (the vast majority of those who survive), subsidize the ones who need care. The younger the age of purchase and the greater the numbers who purchase, the more sharing of the risk. Those whose health status makes them poor risks for long-term-care insurance are good risks for life annuities, so that linking the two risks is likely to increase long-term-care coverage of the population and reduce the need for medical underwriting, and adverse selection in the annuities market.

Surprisingly there has been little literature to date devoted to exploring the potential of pooling risks of longevity (requiring lifetime annuities) with the risk of needing long-term care. Murtaugh, Spillman & Warshawsky (2001) propose a method for linking the two risks in a single product in a voluntary market that has the potential to be cheaper by reducing adverse selection, and provide cover for more people. This theme is developed in a recent contribution where it is argued that the combination of a life annuity and long-term-care insurance "…has the potential to make them available to a broader range of the population, with minimal underwriting and at lower cost" (Warshawsky, Spillman & Murtaugh, 2002, p. 198).

There is some interest from some providers of annuities emerging worldwide. For example, preliminary modeling for the UK by actuarial consultants Watson Wyatt Worldwide shows that worthwhile income increases could be paid once long-term care became necessary for modest reductions in the initial annuity. They see the demand for purchases for such annuities arising later in retirement, at above 70 years (Watson Wyatt Worldwide, 2002).

There are several issues to consider in designing a life annuity that has long-term-care insurance.

- The age at which the policy is to be purchased. The role of deferral of purchase.
- The nature of the costs to be covered: the policy may either indemnify the actual costs or pay a specified amount for an assessed condition. For the latter, once the highest level of dependency is diagnosed, the annuity increases by a given factor regardless of the nature of the care chosen.

- The size of policy and whether maximums should apply. This may be important if there are significant subsidies or government guarantees to this product.
- The kind of inflation adjustment that applies and who pays for it.
- The source of the purchase price. Can it include home equity and, if so, on what basis?

It is likely that any advanced annuity product such as envisaged here would not be forthcoming except with a strong involvement from the state. The unlocking of home equity in helping to pay for this kind of annuity may make it very attractive. New Zealand is in a unique position to offer limited subsidies for this product given that there have been no expensive and regressive tax-driven subsidies to the accumulation phases of retirement saving.

5. Conclusion

Since older people, as a group, have in past decades improved their income and wealth positions, including increased home equity, they as a group appear more able to pay for some of the support they need during old age. Further, financial ability of older people could also be expected to increase from continued work, part-time or full-time, owing to better health for at least some members in this group.

It is possible to think past the old models of social insurance that impose costs directly on the working-age population, and the failed models of private annuities and private long-term-care insurance, which are in any case fading fast. Concern about intergenerational equity is likely to become of increasingly important issue as the population profile of each country begins to change rapidly in the next decade. Intragenerational risk sharing may lessen concerns about possible intergenerational conflicts because the support for the older generation will fall more on older persons themselves.

These schemes in particular would shift the risks with the retired generation itself from those who live longer and need income over a longer period, to those who do not live as long, and from those who are less healthy (or more dependent) to those who are healthier (or less dependent). A combined private/public insurance approach is needed, recognizing the limitations of both pure privately-funded insurance and pay-as-you-go social insurance paid for by payroll taxes.

By encouraging the older age group to fund more insurance needs themselves, more resources may be freed to meet the increased demands of an aging population. It is suggested that such intragenerational risk sharing can improve both perceptions and the reality of intergenerational equity.

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