

No. 33 October 2015

## Editorial

by Christophe Courbage

**Editorial** 1  
by Christophe Courbage

**U.S. Insurance Exchanges and Senior Consumers** 2  
by Steve Woods and Marcy Updike

**Competition in Private Health Insurance in Germany: Models for Transferable Ageing Provisions** 6  
by Anke Walendzik, Florian Buchner and Jürgen Wasem

**Financial Support for Long-Term Elderly Care and Household Savings Behaviour** 12  
by Asako Ohinata and Matteo Picchio

**The Health and Pension Costs of Caregiving** 16  
by Shirley L. Porterfield and Huei-Wern Shen

**India: Social Insurance Schemes in the Social Media Era** 19  
by S. Jayaprakash

**Programme of the 12<sup>th</sup> Health and Ageing Conference** 23

**Call for Papers for the 2016 Geneva Papers Special Issue on Health** 24

**Career Opportunity—Director, Global Ageing** 25

**Research Grant on Cyber Risks** 26

**Forthcoming Conferences of The Geneva Association** 28

It is my pleasure to introduce this new issue of the *Health and Ageing newsletter* of The Geneva Association. Not only does it bring to readers various contributions linked to the topics of health and ageing as related to insurance, but it also presents some important future activities of the Health and Ageing research programme. Two of them deserve special attention.

The first activity is the forthcoming Health and Ageing conference of The Geneva Association, the 12<sup>th</sup> in its annual conference series. It will take place in Singapore on 17–18 November 2016, hosted by the Singapore College of Insurance and supported by Asia Capital Re. The theme of the conference is 'Insuring healthcare for the elderly in Asia'. The detailed programme provided on page 23 of this newsletter shows how fortunate we have been this year to have together such prominent speakers on topics such as longevity and health determinants of the elderly, health care and new health technology for an ageing population, financing health care for the elderly and insurance solutions and opportunities for elderly health coverage, all these topics being addressed under the angle of Asia.

The second important activity of the Health and Ageing research programme is the publication of the October 2016 special issue on health of *The Geneva Papers on Risk and Insurance—Issues and Practice*. I am very privileged to co-edit this issue with John Nyman, Professor of Economics at the University of Minnesota. All interested parties are encouraged to submit a paper for this special issue, the deadline being 9 December 2015 (see the call for papers page 24).

This newsletter also comprises various contributions addressing a wide range of topics, which I would like to briefly present.

The first contribution, by Steve Woods and Marcy Updike, discusses U.S. health exchanges, i.e. a virtual shopping area in which individuals or employees purchase a health insurance product online, whether public or private. They look particularly at the ways senior people perceive these exchanges, how comfortable they are with buying health insurance products online and how these health exchanges should adapt to senior consumers.

The second contribution, by Anke Walendzik, Florian Buchner and Jürgen Wasem, discusses the conditions of competition within the private health insurance system in Germany and their potential adjustment. In particular, they investigate how to implement an economically consistent system of transferability of ageing provisions to enhance competition within the private health insurance system. They identify three types of model and compare their pros and cons.

The third contribution, by Asako Ohinata and Matteo Picchio, investigates whether the introduction of the Scottish Community Care and Health Act 2002 offering free personal elderly care crowded out private savings. They found that the act reduced precautionary savings, possibly leading to a situation in which there is less than full insurance against long-term care for the elderly. It therefore questions the effectiveness of universal elderly care insurance in addressing the large and volatile risks of long-term care for the elderly.

The fourth contribution, by Shirley L. Porterfield and Huei-Wern Shen, explores the effect of providing informal care on health status and pension benefits in the U.S. They show that caring for a working-age adult with disabilities has a disproportionate and negative association with participation and value of savings held in pension plans, as well as on health status, highlighting the importance of finding long-term solutions to support caregivers.

Finally, the last contribution is by S. Jayaprakash and discusses India's evolution in terms of population growth and the development of social media. It also describes the challenges the country is facing in bridging the gap between the growing need for health-care infrastructure and social insurance, and provides some suggestions on how to bridge that gap.

I hope that this new issue of the *Health and Ageing newsletter* will provide you with challenging ideas and I wish you a pleasant read.

## U.S. Insurance Exchanges and Senior Consumers

by Steve Woods<sup>+</sup> and Marcy Updike<sup>++</sup>

With the passage of the Patient Protection and Affordable Care Act (PPACA) in 2010, Americans were introduced to a relatively new way to purchase health insurance, the online exchange. By "exchange," for the purpose of this article, we mean a virtual shopping area in which individuals or employees of a company can research and then purchase an insurance product online that best suits their individual needs. Exchanges can be either public or private; even though they both offer the ability to choose and purchase insurance, they have a few distinct differences.

A public exchange is managed by the federal or a state government and only offers health insurance to individuals or small employers at this time. A private exchange is managed by a benefit broker, employee consultant or another private benefit-related firm. Unlike a public exchange, a private exchange is only utilised at the workplace and can offer other insurance products in addition to health insurance.

An emerging trend in the exchange space is private senior exchanges. In today's business climate, it's clear that employers continue to work on ways to cut costs; one way they are doing so is by eliminating traditional retiree health coverage. In place of retiree medical insurance, some employers are setting up health savings accounts for Medicare-eligible retirees and utilising the private senior exchange to offer these retirees the opportunity to purchase a Medicare Supplement product that will supplement their traditional Medicare coverage. Some employers are also expanding this and offering other retirement-related products on these exchanges.

Exchanges are expected to continue to become more prevalent in both the public and private sectors; however, demographics alone are telling us that exchanges, whether private or public, need to be very user-friendly when it comes to the senior population. On 1 January 2011, the first baby boomer turned age 65. This started a trend, that for the next 19 years where approximately 10,000 people a day will be turning age 65.<sup>1</sup> As illustrated in Figure 1,

<sup>+</sup> Marcy Updike is the Research Center Director and Vice President of Market Research for Gen Re's North America Life/Health business unit. She is responsible for providing project design and management leadership for a variety of industry and ad hoc studies serving the Life and Health industry. She can be reached at [mupdike@genre.com](mailto:mupdike@genre.com)

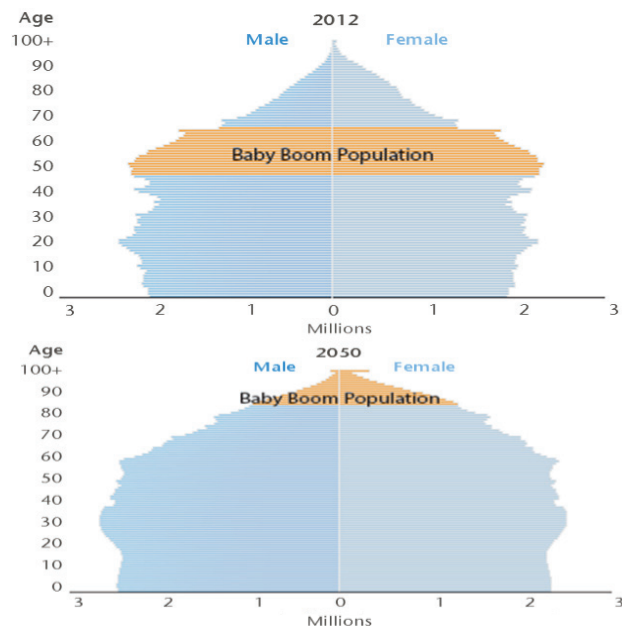
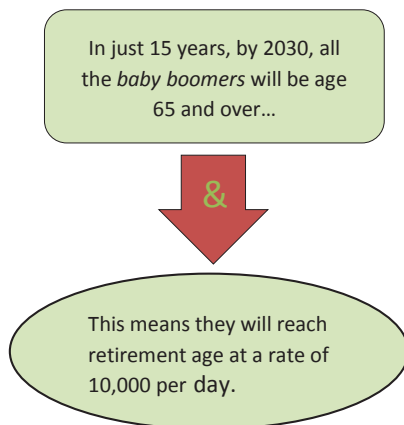
<sup>++</sup> Steve Woods is a Vice President and Senior Account Executive for Gen Re in Portland, Maine. His primary responsibilities are new business development and client relationships for the Medicare Supplement line of business. He can be reached at [steve.woods@genre.com](mailto:steve.woods@genre.com)

<sup>1</sup> CSG Actuarial.



by the year 2050, the number of 65-year-olds in the U.S. will almost double what the number is today and reach 83.7 million.<sup>2</sup>

**Figure 1: Evolution of number of baby-boomer retirees by 2050**



Source: U.S. Census Bureau, *2012 Population Estimates and 2012 National Projections*.

When it comes to exchanges, defining and addressing the senior market is important; however, even though we know what the market opportunity is, the question remains whether these consumers embrace an online exchange to make an insurance purchase.

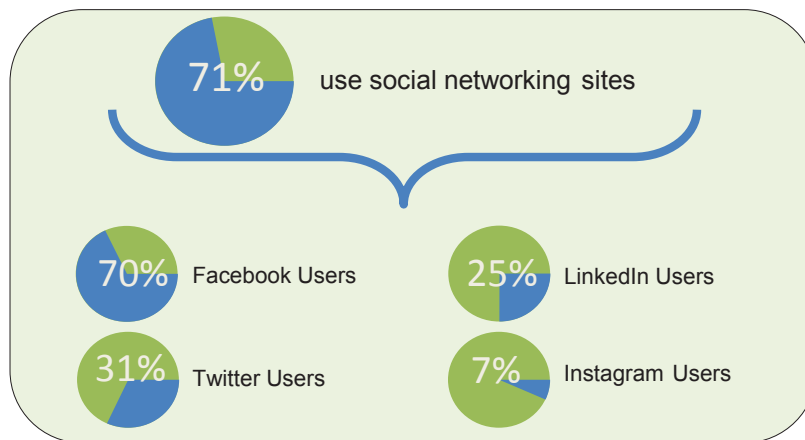
It seems that every time we have a conversation about seniors and exchanges, someone raises their hand and states that seniors are not as comfortable with technology as Millennials and may shy away from using an exchange to purchase an insurance product. While it is obvious that Millennials are more comfortable with today's technology, it doesn't mean that older Americans are refusing to use technology in their daily lives. Boomers certainly have some distance to go in order to catch up with Millennials (Figure 2) but it is safe to say that technology use amongst boomers is prevalent and utilisation will only continue to grow as younger boomers age into retirement.

In a recent Gen Re study,<sup>3</sup> we surveyed over 2,000 individuals ages 21–65 and asked them about their thoughts on exchanges as well as their likelihood of purchasing insurance through an exchange. We decided to segment this further and focus on the older consumers, ages 61–65, to find out if the stereotypes about senior consumers were true. What we found was that even with the political undertones surrounding health-care exchanges, the majority of senior consumers rated them positively. When we asked people about their positive feelings on health insurance exchanges, the top three answers were all focused on choice (see Figure 3). These respondents liked the idea of having options that they could compare in order to make a buying decision that is right for them. Even though the majority had an overall positive opinion about exchanges and are comfortable buying insurance online, they are concerned about the decision process leading up to the actual purchase. Older employees want to be sure that they are selecting the right benefits and don't always have the confidence to make the decision alone.

<sup>2</sup> U.S. Census Bureau (2014) *An Aging Nation: The Older Population in the U.S.*

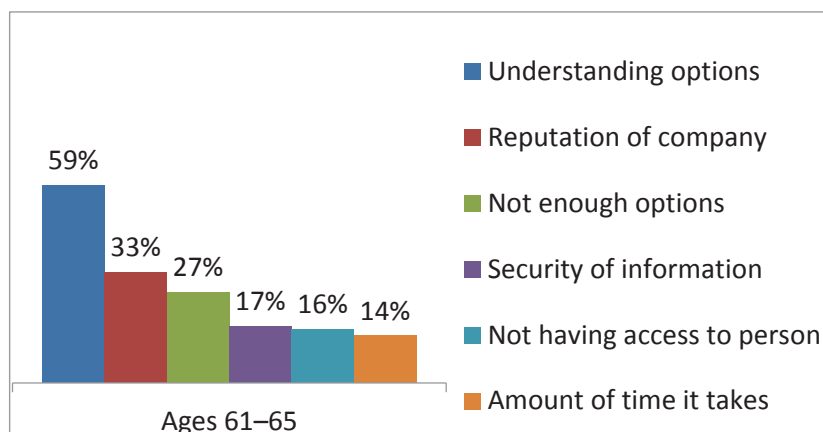
<sup>3</sup> You can view the full presentation from our website <https://genre-ports.webex.com/genre-ports/ldr.php?RCID=afc2e7d09351c45021fc9850b50cb333>

Figure 2: Baby boomers and social networking sites usage



Sources: Google & Ipsos (2013) *Reaching Today's Boomers & Seniors Online*; globalwebindex (2014) *GWI Audience Report—Summary Q2 2014, Generations—Summary Q2 2014*.

Figure 3: Concerns about purchasing health insurance through an exchange: ages 61–65



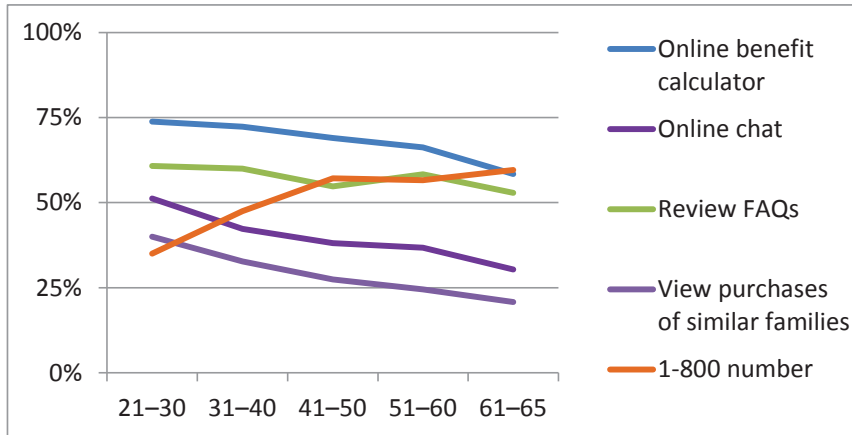
Source: Gen Re (2014) *Insurance Exchanges—An Individual's Perspective*.

In a separate Gen Re study focused on senior consumers and their relationship with insurance agents, we explored this idea further and were able to classify respondents into two categories—either 'info-takers' or 'info-seekers'. Info-takers are those that do very little if any pro-active research. They rely on information that is either pushed out to them or comes in the form of referrals from family and friends. Info-seekers, on the other hand, are pro-active in their research. They utilise multiple sources and spend more time researching than the former. In general, they also tend to be more educated and more sceptical about the process, including the origin of the information they are reading.

Whether an info-taker or info-seeker, the learning tools that support an exchange must address the specific needs of the consumer. We asked consumers of all ages what tools they would utilise as part of the education process before buying on an exchange. As you can see in Figure 4, the type of tool used is almost exclusively dependent on the age of the consumer. The older the consumer, the more the use of self-help tools decline, while the need for human interaction increases.

A comment we heard consistently from all types of senior consumers is that the process is 'overwhelming' and they need help in making the right decision. Having a live person with whom they can speak and who is unbiased is needed to help the consumer validate that he or she is making the correct decision.

**Figure 4: Percentage of individuals reporting they are likely to use these selection tools during the process**



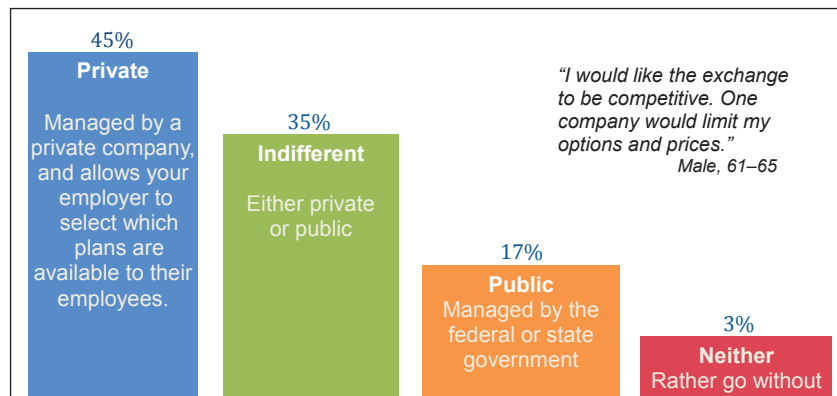
*"I would read what I could online and then I would want to speak with a live person to ask questions."*

*Male respondent, age 61-65*

Source: Gen Re (2014) *Insurance Exchanges—An Individual's Perspective*.

When we asked older consumers, if given the choice, would they prefer a public or private exchange, the vast majority chose a private exchange, 45 per cent to 17 per cent, with 35 per cent indicating they were indifferent (Figure 5). We went on to ask about the importance and quality of information provided on an exchange. Older consumers were very clear that the most important thing to them was that the information is accurate and to some extent unbiased. They felt that insurance companies may not always be unbiased, but the information they offer would certainly be accurate. They also felt comfortable with employers providing this information. Insurance brokers were well down the list as a trusted source for accurate and unbiased information.

**Figure 5: Preferred type of insurance exchange**



*"I would like the exchange to be competitive. One company would limit my options and prices."*

*Male, 61-65*

Source: Gen Re (2014) *Insurance Exchanges—An Individual's Perspective*.

Based on what we've seen through our research and discussions with those in the U.S. insurance market, we believe that the online marketplace, 'exchanges', will continue to evolve to address the needs of all senior consumers. However, whether private or public, those managing the exchanges must recognise that not all consumers are the same. Senior consumers have accepted the idea of an online marketplace but, for exchanges to become an accepted way to do business in this segment of the population, the supporting tools need to address their needs.

Whether an info-taker or info-seeker, consumers are going to demand tools that meet everyone's needs, including access to a live person at some point in the process. Regardless of the level of research a consumer may do, they still are looking to feel good about their purchase before pushing the 'buy now' button.

## Competition in Private Health Insurance in Germany: Models for Transferable Ageing Provisions

by Anke Walendzik,<sup>+</sup> Florian Buchner<sup>++</sup> and Jürgen Wasem<sup>+</sup>

### Background

Premiums paid by the insured have various functions and components in health insurance (Cochrane, 1995). They should cover short-term health costs, but also the risk of worsening health conditions. And they should be embedded in a system which allows switching of insurers to allow for competition. In this short article we focus on the last issue with regard to the private health insurance system in Germany.

Compared to other European health insurance systems, the German dual system is unique: while basic health insurance is compulsory, it is implemented via two different systems based on distinct 'construction principles' and predominantly addressing different parts of the population. The statutory health insurance system is financed mainly by income-related contributions using the pay-as-you-go financing mechanism; the health funds have an obligation to contract, and risks are balanced by a morbidity-based risk adjustment scheme. Private health insurance, on the other hand, is financed by risk-related premiums mainly without an obligation to contract and uses a front-loaded financing system, which saves part of the premium in younger ages for building an ageing provision in order to keep premiums constant in old age. While the statutory health insurance system is compulsory for employed inhabitants below certain income limits, employees receiving higher wages may choose their insurance system, and the self-employed and civil servants are mainly privately insured.

The existence of the dual system has led to various discussions about the conditions of competition between and within the two insurance systems and their effects and to propositions including more or less fundamental changes concerning their financing (e.g. Buchner and Wasem, 2006; Sehlen *et al.*, 2006; Kifmann and Nell, 2014).

This article focuses on the conditions of competition within the private health insurance system and their potential adjustment. Here, the front-loaded insurance plans aim at steady lifelong premiums independent of changes in health risks after contracting using ageing provisions calculated on average risk. Up to 2009, in case of change of health insurance provider by an insuree, there was no transfer of any ageing provision, which lead to very strong incentives to stay with the initial insurance company. For new contracts concluded from 2009, ageing provisions for a limited insurance package are transferred within the private health insurance system in case of change of insurer. But these transferable ageing provisions are also calculated on community-based risk, not according to the individual actual risk of the insuree at the time of changing insurer. So, change of private health insurer is mainly attractive for healthy insurees with small insurance packages. As a systematic effect, the deficiencies in the transferability of ageing provisions lead to a very limited competition on already privately insured persons.

Is it possible to implement an economically consistent system of transferability of ageing provisions to enhance competition within the private health insurance system, and how can this be done? This is the question we focus on in this article.

<sup>+</sup> University of Duisburg-Essen, Faculty of Business and Economics.

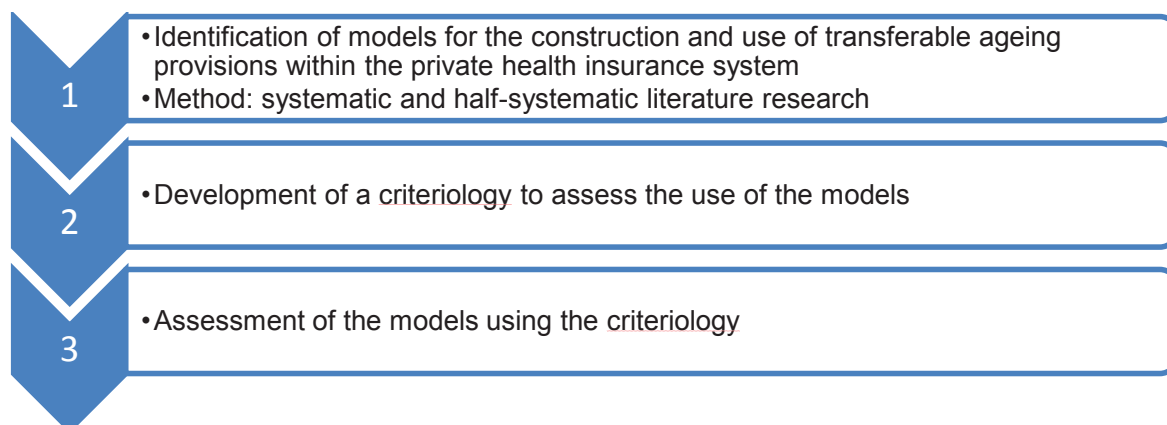
<sup>++</sup> Carinthia University of Applied Sciences.



## Methods

Figure 1 shows the structure of the approach used to answer this question: the authors identified models of transferability of ageing provisions and assessed their implementation according to a criteriology using relevant economic and societal criteria. This article will focus on economic criteria and feasibility questions.

**Figure 1: Methods: identification and assessment of models for the transferability of ageing provisions**



## Criteriology

**Table 1: Criteriology**

<ul style="list-style-type: none"> <li>• <b>Sustainability of health insurance system</b> <ul style="list-style-type: none"> <li>o Especially: no decline in the collective premium risk for the releasing or including insuree populations and avoidance of possible chain reactions</li> <li>o Effects on financial markets</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Allocative aspects (welfare)</b> <ul style="list-style-type: none"> <li>o Orientation towards consumer preferences</li> <li>o Choice between different service levels</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Consistent economic incentives</b> <ul style="list-style-type: none"> <li>o Efficiency</li> <li>o Avoidance of risk selection concerning the changing insurees</li> <li>o Prevention</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Practicability</b> <ul style="list-style-type: none"> <li>o Time horizon of realisation</li> <li>o Cost of realisation</li> <li>o Changes in transaction cost</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Transparency from consumers perspective, verifiability</b></li> </ul>



The catalogue of criteria mainly focuses on long and short-term economic criteria like the sustainability of the system, welfare aspects and the consistency of economic incentives resulting from the models. Assessing sustainability, the authors stress the possibility of chain reactions because of adverse selection following changes in collective premium risks<sup>4</sup> in insurance schemes and on potential effects on financial markets. Allocative criteria mainly focus on consumer preferences and choice. Economic incentives concern short- and long-term efficiency and the avoidance of risk selection as a main optimisation method from the insurer's perspective. This also includes considerations about effects on insurers' incentives for prevention. Practicability of model implementation in terms of time and costs is judged as well. Additionally the authors assess transparency and verifiability aspects.

## Model types

Models were clustered into three types (Figure 2). The first type of model concentrates on the risk-related calculation of ageing provisions for individuals at the time of insurer change. The second type proposes the calculation and transfer of ageing provision in rates over time incorporating future individual development of risk status. And the third type avoids the necessity of the transfer of individual risk-related ageing provisions by proposing a morbidity-based risk adjustment scheme.

**Figure 2: Types of models proposing transferable ageing provisions for all insurees**

1. Singular transfer of ageing provisions calculated on an individual base at the time of insurer change
2. Calculation and transfer of ageing provisions in rates over time
3. Singular transfer of ageing provisions calculated on average risk profiles combined with a morbidity-based risk adjustment scheme

### **Model-type 1: Singular transfer of an individually calculated ageing provision at the time of insurer change**

The main idea of the first model type is that transferable ageing provisions should mirror the health risk of the insuree (or his expected future health costs) at the time of the change of insurer. So the new insurer can use the transferred amount of money as an ageing provision for calculating the premium of the new insurance contract. As a result, in case of similar calculation data and a comparable level of service in both contracts, the new premiums of the switcher will correspond to age and risk status at the time of concluding the old contract.

This kind of model was first published by Meyer in different versions beginning with 1992 (Meyer, 1994) using insurer-specific as well as overall calculation schemes. A clearing centre and an arbitration body are recommended. Zähle and Zähle (2013) operationalised these models mathematically using a Markov model to calculate appropriate ageing provisions, first on a fixed, then on a variable calculation base. Nell and Rosenbrock (2009) focus on the problem of potential financial disadvantages for the collective of insured staying with the old insurer due to the fact that a switcher leaving the group gets too high an ageing provision. In order to avoid those effects, the authors introduce the so-called 'sum-rule'. In a simplified form, it says that differences between individually calculated ageing provisions and ageing provisions based on average profiles have to sum up to zero for all insurees in an given health plan. Eekhoff and Arentz (2013) propose a negotiation solution to determine the individual amounts of ageing provisions, while Meier and Werding (2007) focus on the correct determination of ageing provisions for good risks, meaning those insurees with better-than-average health status.

<sup>4</sup> As a collective premium risk we understand the risk of an insuree collective to face future premium adaptations (see Nell and Rosenbrock, 2009).



### Assessment of model-type 1

All models presented are able to account for insuree preferences as they allow to choose between different service levels and broaden the options to choose different insurers. Nevertheless, their introduction would not be Pareto-optimal because, in comparison to the current situation, there is a disadvantage for all insurees staying with their first insurer over time: at present, ageing provisions of switchers are neither transferred nor added to the profit of the insurer, but are added to the ageing provisions of non-switching insurees of the insurer the switcher is leaving. This lowers premiums because the probability of transfer of ageing provisions of switchers is included in the premium calculation as 'revers'. All models except Eekhoff's are largely able to protect the insurees staying with their original insurance scheme against a worsening collective premium risk induced by insurer changes. Accordingly, the risk of adverse selection effects is kept relatively small. In a scenario of transferable ageing provisions within the private health insurance system only, effects on the financial markets seem controllable, so the sustainability of the private health insurance system is not at stake. An open question is whether insurers are sufficiently incentivised to calculate realistic individual ageing provisions—depending on the answer, more or less institutional regulation is needed.

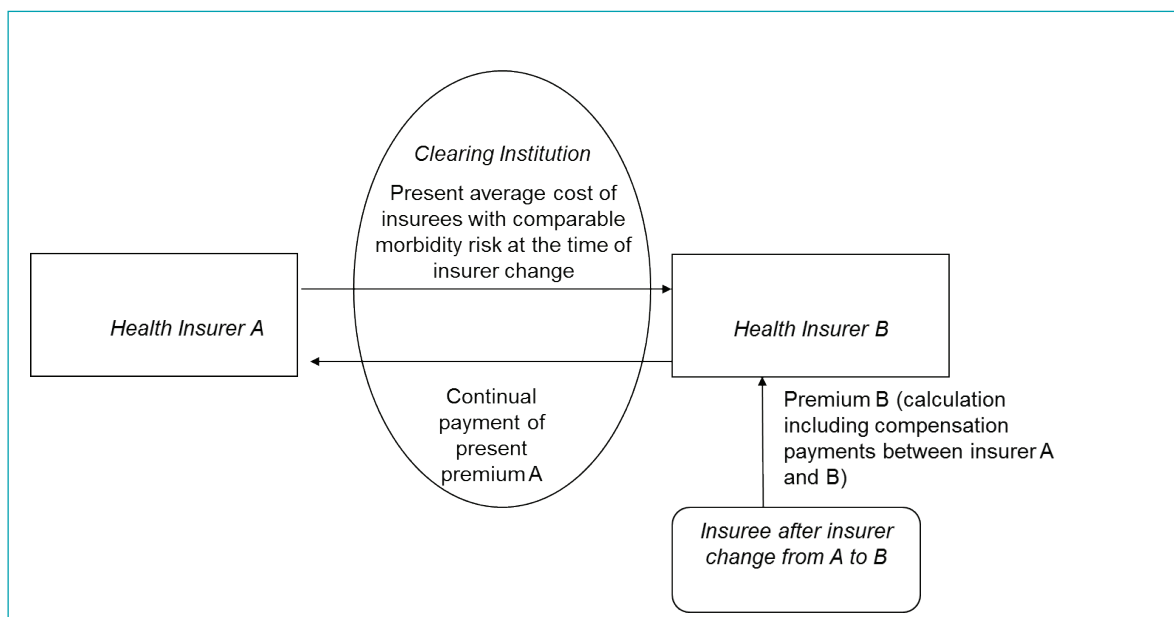
For the implementation of the models it is necessary to collect considerable amounts of data by the insurers and in central institutions; appropriate estimation models and classification systems have to be designed and agreed on. This would lead to time lags in realisation. The models using central institutions and consented estimation models and classification systems are more transparent. On the other hand, they cause a higher degree of regulation in the health insurance market and lead to higher transaction cost.

### Model-type 2: Calculation and transfer of ageing provisions in rates over time

A model of type 2 was presented by Buchner and Wasem (2006). Sehlen *et al.* (2006) combine a similar model with a morbidity-based risk adjustment scheme for statutory and private health insurance. The main idea of this model is drafted in Figure 3.

A switching insuree pays her premium to the new insurer B based on the calculation of her former insurance scheme with her former insurer A. This premium, therefore, is based on the age and risk status of the insuree at the time of concluding the contract with former insurer A. Insurer A, on the other hand, pays the actual average cost generated by a comparison group of insurees in his portfolio to the new insurer B. This comparison group is representative of the age and risk of the switcher at the time of switching.

**Figure 3: Calculation and transfer of ageing provisions in model-type 2**



### Assessment of the model-type 2

Like models of type 1, the type 2 model is largely able to protect staying insurees against a worsening collective premium risk induced by switchers. There are no effects on financial markets at all, as ageing provisions are liquidated as planned. The main advantage of this model is that there is no need to predict future morbidity-specific cost developments. On the other hand, an insuree has to be included in an insurer's calculation for the rest of his life, even in case of a very short insurance period: this leads to high complexity in case of multiple switchers. Additionally, new insurers of changing insurees depend on internal developments and strategies of all former insurers which leads to the necessity to build appropriate know-how.

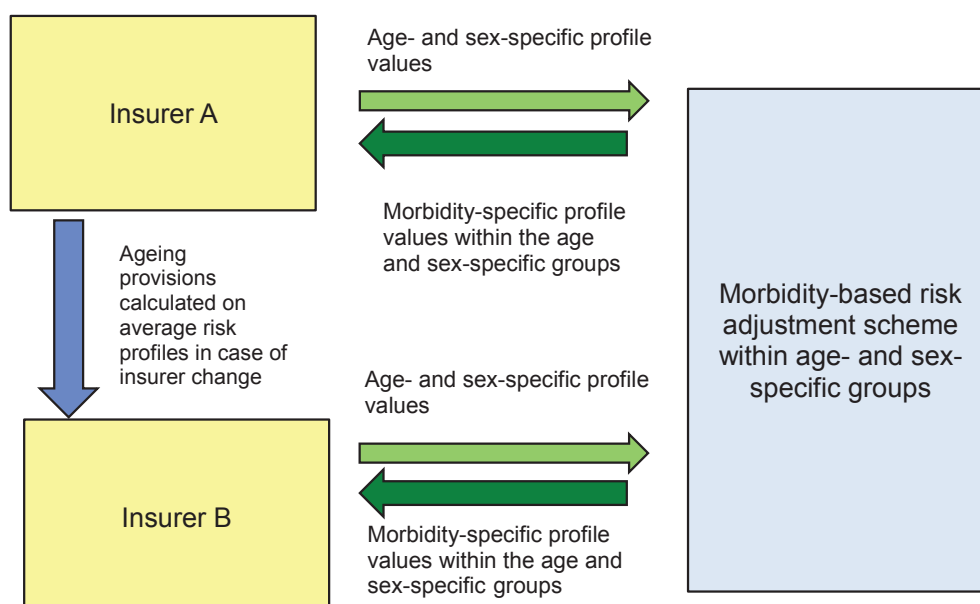
### Model-type 3: Singular transfer of ageing provisions calculated on average risk profiles combined with a morbidity-based risk adjustment scheme

The model of Buchner and Wasem proposing a morbidity based risk adjustment scheme was originally developed for a unified private health insurance system replacing the German dual system, characterised by a front-loaded financing system using ageing provisions (Wasem and Buchner, 2001). The model includes an obligation to contract for a compulsory basic level of services. Within age and gender groups, the obligatory morbidity-based risk adjustment scheme compensates for different risk structures of insurers. This allows the transfer of ageing provisions calculated on average risk profiles without causing disadvantages in choosing options for insurees with poor health status—if the risk adjustment mechanism works appropriately. The model is outlined in a simplified form in Figure 4.

### Assessment of model-type 3

In this model the positive welfare effects through better possibilities of insurer change are limited: the risk adjustment scheme refers to a defined/fixed level of services. A part of the collective premium risk, the morbidity structure, is balanced by the risk adjustment scheme. The effects on the financial markets, comparable to those in the models of type 1, seem controllable. Incentives for prevention are reduced because of the morbidity-based risk adjustment scheme. As in the model type 2, there is no need to predict future morbidity-specific cost developments. The insurer data for the age- and sex-specific risk adjustment schemes have to be collected causing a time lag for implementation, whereas the verifiability is relatively high because of the centralised procedure of risk adjustment.

Figure 4: Transfer of ageing provisions and risk adjustment scheme in model-type 3





## Conclusion

There is no model—including the status quo—with a superior assessment according to all criteria, so a possible political decision can only be taken by weighing possible aims. The status quo shows strengths, especially in practicability and transparency, and partly concerning the sustainability of the health insurance system, but has visible flaws in terms of allocative aspects and economic incentives. In case of a political decision to improve the transferability of ageing provisions, the strengths and weaknesses of the different models also have to be weighed, which finally cannot be done on a scientific basis.

## References

- Buchner, F. and Wasem, J. (2006) 'Wettbewerb der Krankenversicherungen aus gesundheitsökonomischer Sicht', Hamburg: Hamburger Zentrum für Versicherungswissenschaft.
- Cochrane, J. (1995) 'Time-consistent health insurance.', *Journal of Political Economy* 103(3): 445–473.
- Eckhoff, J. and Arentz, C. (2013) 'Zur Zukunft der PKV: Probleme und Perspektiven', *Gesundheitsökonomie & Qualitätsmanagement* 2013(18): 106–110.
- Kifmann, M. and Nell, M. (2014) 'Fairer Systemwettbewerb zwischen gesetzlicher und privater Krankenversicherung', *Perspektiven der Wirtschaftspolitik* 15(1): 75–87.
- Meier, V. and Werding, M. (2007) *Übertragbarkeit risikoabhängiger Alterungsrückstellungen in der Privaten Krankenversicherung*, ifo Forschungsberichte, Munich: I. f. Wirtschaftsforschung.
- Meyer, U. (1994) 'Gesetzliche Regelungen zu den Rechnungsgrundlagen der privaten Krankenversicherung', in H.-P. Schwintowski (ed.) *Deregulierung, Private Krankenversicherung, Kfz-Haftpflichtversicherung*, Baden-Baden: Nomos.
- Nell, M. and S. Rosenbrock (2009) 'Ein Risikoausgleichsmodell für den Wettbewerb um Bestandskunden in der PKV', *Zeitschrift für die gesamte Versicherungswissenschaft* 2009(98): 391–409.
- Sehlen, S., Hofmann, J. and Reschke, P. (2006) 'Privat Krankenversicherte und Risikostrukturausgleich—zur Wahlfreiheit zwischen GKV und PKV', *Gesundheits- und Sozialpolitik* 2006(1–2): 54–64.
- Wasem, J. and Buchner F. (2001) *Funktion und Ausgestaltung eines Risikostrukturausgleichs in einem wettbewerblichen Krankenversicherungssystem mit Kapitaldeckung und Kontrahierungszwang*. Greifswald.
- Zähle, H. and Zähle, K. (2013) 'Prämienanpassungen im Risikoklassenmodell der Privaten Krankenversicherung', *Zeitschrift für die gesamte Versicherungswissenschaft* 2013(102): 111–140.

# Financial Support for Long-Term Elderly Care and Household Savings Behaviour

by Asako Ohinata<sup>+</sup> and Matteo Picchio<sup>++</sup>

## Introduction

The cost of long-term formal elderly care, offered to individuals aged 65 and above, is often covered entirely by each individual. Such costs pose significant financial uncertainties for the elderly, since it is typically very difficult for individuals to predict the types and the duration of care in the future.

How to financially support the elderly and their families during the period of their long-term elderly care needs is a policy question that is often debated in many developed countries. Policymakers have the difficult task of striking a balance between ensuring the comfort of the elderly by providing a sufficient amount of affordable care and limiting government expenditure. Moreover, the extent of the problem is likely to increase in the next decades due to the ageing population and the low fertility rates faced by many countries.

When designing a policy aimed at financially supporting the elderly with their care costs, it is imperative that one takes account of behavioural changes among the elderly and their families. One potential concern related to the introduction of a more generous system of formal elderly care is that households may reduce the amount of savings over their life cycle, since they anticipate that they will rely more heavily on public funds. Moreover, since the aggregate private savings might play a relevant role in the determination of capital accumulation and, thereby, in future economic growth (Solow, 1959; Romer, 1986; Lucas, 1988), it is of crucial importance to understand whether and to what extent the introduction of a more generous system of long-term elderly care could have had unintended consequences on household savings over the life cycle.

Our article intends to present one of the first studies from outside the U.S. on the impact of financial support towards long-term elderly care on U.K. household savings behaviour. We exploit a 2002 Scottish reform, which started offering a part of elderly care free of charge. Before this reform, Scotland and the rest of the U.K. shared the same public system for long-term elderly care. Since this policy was introduced only in Scotland, U.K. households outside of Scotland can be used as a control group to disentangle the impact of such a Scottish reform on the savings behaviour of Scottish households from any other changes in savings induced by time effects common to all U.K. regions.

## Historical background

Individuals who have difficulties with daily activities receive personal care. Examples of personal care are bathing, toileting, assistance with preparing and eating food, and dressing. Personal care may be informally provided to the elderly by their family members. Paid personal care is also available from social workers administered by local authorities or privately hired caretakers. Paid personal care is referred to as 'formal' care.

Prior to 2002, the cost of formal personal care in the U.K. was paid almost entirely by individuals. Such costs exposed each individual in need of long-term care to significant financial burden. The Scottish Executive set up the Care Development Group in January 2001, which was aimed at pursuing options on how to implement state-funded personal care and to evaluate the estimated cost of introducing such a policy. After several revisions, the

---

<sup>+</sup> Department of Economics, University of Leicester, United Kingdom and CentER, Tilburg University, The Netherlands. Corresponding author: Department of Economics, University of Leicester, Leicester, LE1 7RH, United Kingdom. Tel.: +44 116 252 2894. [ao160@le.ac.uk](mailto:ao160@le.ac.uk)

<sup>++</sup> Department of Economics and Social Sciences, Marche Polytechnic University, Italy; SHERPPA, Ghent University, Belgium; CentER, Tilburg University, The Netherlands; and IZA, Germany. [m.picchio@univpm.it](mailto:m.picchio@univpm.it)



bill passed and received Royal Assent on 12 March 2002 to become the Community Care and Health (Scotland) Act 2002 (CCHA), which in turn, was implemented on 1 July 2002. In contrast to Scotland, England, Wales and Northern Ireland to this day have not followed the Commission's recommendation to make formal personal care free and continue to charge individuals for this type of care.

Table 1 highlights individuals' financial gains due to the reform by care setting and the region of residence. For each group, we calculate the maximum possible amount of weekly allowances given to individuals. Table 1 indicates that the amount of financial gain experienced by Scottish individuals receiving personal care at home stands out from the rest of the U.K. In contrast, the modifications of the allowances for care received in residential care homes are only marginally heterogeneous across regions. However, the majority of individuals in the U.K. receive care at home: in 2010–2011 only 1 per cent of care recipients in England received care in residential care homes (English Longitudinal Study of Ageing). Assuming that the U.K. individuals form expectations on their future care setting based on the current trend, the Scottish policy is likely to be relevant to the majority of the population. Based on the amount reported in Table 1, computing the difference between the variation in the allowances of care received at home in Scotland and the one in the rest of the U.K. yields GBP 145 per week. This difference amounts to GBP 7,540 per year.

**Table 1: Maximum amounts of weekly allowances changed before and after the reforms**

Care received in care homes	Before the reforms (2000 rate) £ per week	After the reforms (2003 rate) £ per week
England	53.55	200.00
Wales	53.55	176.86
Northern Ireland	53.55	157.20
Scotland	53.55	210.00
Care received at home	Before the reforms (2000 rate) £ per week	After the reforms (2003 rate) £ per week
England	53.55	57.20
Wales	53.55	57.20
Northern Ireland	53.55	57.20
Scotland	53.55	202.20

Notes: This table illustrates how the maximum amounts of weekly allowances changed before and after the reforms, depending on where the elderly reside and where they receive care. The pre-reform amounts are calculated using the 2000 rates, whereas the 2003 rates are employed for the calculations of the post-reform amounts. Since the formal personal care allowance in Scotland for those receiving care at home is not fixed, we use the average amount provided to the elderly, i.e. £80 (National Statistics, 2012). These calculations also incorporated the other allowances such as the Attendance Allowance and the nursing care allowances to illustrate the overall changes that individuals experienced over time.

## Econometric specifications, data, and estimation results

### *Econometric specifications and data*

This study employs the 1999–2007 repeated cross-sectional dataset of the U.K. Family Resources Survey (FRS). In order to investigate the impact of the Scottish policy on household savings, we employ a difference-in-differences estimator, which evaluates the changes in the differences in households' savings between Scotland and the rest of the U.K. before and after the 2002 policy introduction.

The dependent variable in our model is household savings, defined as the sum at household level of bank deposits, bonds/gilts and housing values, minus any remaining mortgages and debts. Dependent variables include head of household information such as age, gender, race and marital status, as well as educational attainment. We also

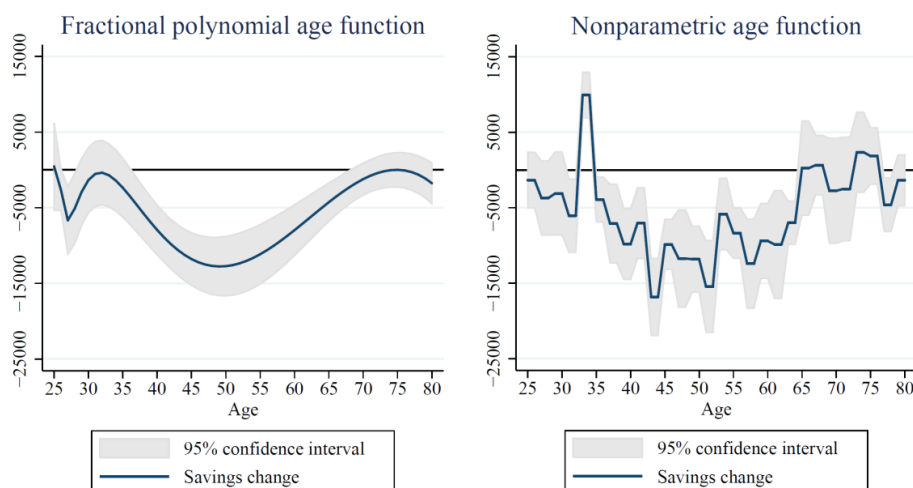
include the spouses' educational attainment and age of children. Regional characteristics such as unemployment rate, per capita gross value added and per capita gross disposable income are also included. In addition, we control for regional and time fixed effects.

## Results

Figure 1 displays the heterogeneous effects of the 2002 policy reform by the age of the head of household. Estimating by OLS, we impose fractional polynomial specification of the age functions with powers  $\{-2, -1, -0.5, 0, 1, 2, 3\}$ , as well as piecewise constant functions by grouping age in intervals of two years. Both the fractional polynomial and the piecewise constant specifications of the age functions return very similar results. On the one hand, the fractional polynomial approach has the advantage of smoothing peaks that might be due to random outlier observations, at a cost of relying more on a parametric structure. On the other hand, the piecewise constant approach is less parametric and, in this application, it is preferred according to the LOOCV statistic.

We find that the policy effect indeed varies across the age of the head of household. When the head of household is aged 25–35, and therefore the household members have a long time horizon until the possible need of personal care, the effect of the reform is negative but close to zero. In their mid-30s, households start reacting by reducing their savings. The age profile of the reform effect peaks between 45 and 55 years. With the fractional polynomial specification, the peak is reached at age 49 with a decrease in household wealth of GBP 12,764. In the piecewise constant specification, we instead observe two important peaks: the first one at age 43–44, with a decrease in household savings of GBP 16,827; the second one at age 51–52, with a negative effect of GBP 15,441. Finally, the reform effect becomes nil when the age of the head of household approaches 65–70.

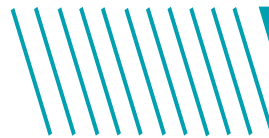
**Figure 1: The effects of the reform on household savings by the age of the head of household**



## Conclusions

This article studies the impact of the Scottish Community Care and Health Act 2002 on the level of household savings. The Scottish policy legislated that formal personal care be offered to the elderly free of charge. In contrast, the rest of U.K. has continued to charge the elderly for services. If households save to prepare for future elderly care expenditure, such a reduction in the care price may have led the households to respond by reducing their level of savings. This article, therefore, studies an unintended consequence of the policy's introduction and evaluate if and to what extent it crowded out private savings.





By using the households in England and Wales as a control group, we investigate how Scottish household savings responded to the policy introduction of free personal care for the elderly by using a difference-in-differences estimator. We also study how the effect differs across age by using semi-parametric techniques.

We find that the Scottish policy reform reduced the average household savings by about GBP 7,200. This figure is very close to the simulated expected lifetime cost of local authority-provided personal care reported by Comas-Herrera and Wittenberg (2010). In their paper, they estimate the cost to be GBP 8,800. In addition, we find that the policy effect varies across the age of the head of household. The estimated negative effect is particularly strong among households aged between 40 and 60. The largest effect is observed for those households with the heads aged 49, with a negative effect on savings of GBP 12,764. Our findings are in line with the existing literature for the U.S., which also suggests the importance of medical expenditure uncertainties on household savings behaviour (Gruber and Yelowitz, 1999; Maynard and Qiu, 2009). However, our findings differ from those presented by Guariglia and Rossi (2004), who instead found that British individuals do not make use of precautionary savings against the risk of facing unexpected private health-care expenditures. This may be due to the fact that U.K. individuals have access to universal health care coverage through the NHS. Hence, the health insurance coverage that Guariglia and Rossi (2004) investigated had limited impacts on individuals' behaviour. In contrast, our policy offered a substantial long-term care cost reduction under the environment where this type of cost was almost exclusively paid by patients. In order to ensure that our estimates uncover causal relationships, we conduct several identification tests as well as sensitivity analyses. Our findings from various tests and the sensitivity analyses strongly indicate the robustness of our conclusions from the estimates of the benchmark model.

Given the sizeable effect on savings, especially for middle-aged households, one may wonder if households overestimate the benefits introduced by the free personal care reform due to a misunderstanding of the policy, as pointed out by Bell and Bowes (2006). If so, the resulting reduction in precautionary savings might lead to a situation in which there is less than full insurance against long-term care for the elderly. In such a case, one might wonder whether universal elderly care insurance introduced in countries such as Japan or Germany may be a more effective way to address the large and volatile risks of long-term care for the elderly. These questions are left to be investigated in future studies.

## References

- Bell, D., Bowes, A. (2006) *Financial Care Models in Scotland and the UK*. York, U.K.: Joseph Rowntree Foundation.
- Comas-Herrera, A. and Wittenberg, R. (2010) 'Expected lifetime costs of social care for people aged 65 and over in England', in L. Curtis (ed.) *Unit Costs of Health and Social Care, Canterbury: Personal Social Services Research Unit*, pp. 41–46 from <http://www.pssru.ac.uk/archive/pdf/uc/uc2010/uc2010.pdf>
- Gruber, J. and Yelowitz, A. (1999) 'Public health insurance and private savings', *Journal of Political Economy* 107(6): 1249–1274.
- Guariglia, A. and Rossi, M. (2004) 'Private medical insurance and saving: Evidence from the British Household Panel Survey.' *Journal of Health Economics* 23(4): 761 – 783 [contains contributions from the Grossman Symposium].
- Lucas, R. E Jr (1988) 'On the mechanics of economic development', *Journal of Monetary Economics* 22(1): 3–42.
- Maynard, A. and Qiu, J. (2009) 'Public insurance and private savings: Who is affected and by how much?', *Journal of Applied Econometrics* 24(2): 282–308.
- National Statistics (2012) *Free Personal and Nursing Care, Scotland, 2010–11*, Edinburgh: The Scottish Government, from <http://www.gov.scot/Publications/2012/08/4156/downloads#res399508>
- Romer, P.M. (1986) 'Increasing returns and long-run growth', *Journal of Political Economy* 94(5): 1002–1037.
- Solow, R. (1959) 'A contribution to the theory of economic growth', *Quarterly Journal of Economics* 70(1): 65–94.



# The Health and Pension Costs of Caregiving

by Shirley L. Porterfield and Huei-Wern Shen\*

When we retire from work, most of us expect that we will receive income from an employer- or government-based pension system. Employer-based pension systems are closely tied to work effort, with any time away from work having a negative impact on pension savings. While we know quite a lot about adults who have caregiving responsibilities for elderly relatives, little is known about the balancing of work and family life among adults who are parent-carers, having caregiving responsibilities for adult children with disabilities.<sup>5</sup> The life course choices made by parent-carers may be quite different, as these are adults who have experienced much longer periods of caregiving. Nine percent of working-age adults in the U.S. identify themselves as a caregiver.<sup>6</sup> While the proportion of adults with disabilities who are cared for informally within their families may not be increasing significantly, their family caregivers are ageing and the public programmes and policies designed to support these adults with disabilities are not keeping pace with population growth.<sup>7</sup> In the U.S., 70 per cent of working-age adults with disabilities live with relatives; 55 per cent with a parent who is age 60 or older.<sup>8</sup>

Although adults who are healthier are more likely to take up a caregiving role,<sup>9</sup> evidence consistently shows that those who provide care of all types have worse mental<sup>10</sup> and physical health status<sup>11</sup> than their non-caregiving counterparts. Caregiving tends to follow traditional gender roles; two-thirds of identified caregivers are women. When providing care, women tend to spend more hours than men do.<sup>17</sup>

## Definitions and survey data

To better understand the health and pension costs of caregiving, we use survey data collected by the U.S. Census Bureau to examine the health status of women in the U.S. by caregiving experience, and whether these women are more or less likely to hold a pension in their own name.<sup>12</sup> We also examine whether there is a significant difference in the value of private pension holdings, given age and health status, and whether these differences persist when total household pension values are compared among women who are, or are not, caregivers.

In the U.S., there are government-based pension systems (federal, state and local), and two main forms of employer-based pension systems. Virtually all Americans are entitled to receive a pension through the federal Social Security system, so in this study, we focus on the two forms of employer-based systems—defined benefits and defined

\* Associate and assistant professor (respectively) of social work and gerontology, University of Missouri-St Louis, USA.

- 5 Llewellyn, G., McConnell, D., Gething, L., Cant, R. and Kendig, H. (2010) 'Health status and coping strategies among older parent-carers of adults with intellectual disabilities in an Australian sample', *Research in Developmental Disabilities* 31(6): 1176–1186.
- 6 Ho, A., Collins, S.R., Davis, K. and Doty, M.M. (2005) *A look at working-age caregivers' roles, health concerns, and need for support*, Issue Brief, The Commonwealth Fund Publication No. 854, from [http://www.commonwealthfund.org/~media/files/publications/issue-brief/2005/aug/a-look-at-working-age-caregivers-roles--health-concerns--and-need-for-support/854\\_ho\\_lookatworkingcaregiversroles\\_ib-pdf.pdf](http://www.commonwealthfund.org/~media/files/publications/issue-brief/2005/aug/a-look-at-working-age-caregivers-roles--health-concerns--and-need-for-support/854_ho_lookatworkingcaregiversroles_ib-pdf.pdf), accessed 6 September 2014.
- 7 Fujiura, G.T. (2014) 'The political arithmetic of disability and the American family: A demographic perspective', *Family Relations* 63(1): 7–19.
- 8 Easter Seals (2010) *Living with Disabilities Study: Key Findings*, from [http://oakwealth.com/wp-content/uploads/2013/11/Easter\\_Seals\\_Living\\_with\\_Disabilities\\_Summary.pdf](http://oakwealth.com/wp-content/uploads/2013/11/Easter_Seals_Living_with_Disabilities_Summary.pdf), accessed 21 June 2015.
- 9 National Alliance for Caregiving (2015) *Caregiving in the U.S. 2015*, from <http://www.caregiving.org/caregiving2015/>, accessed 15 September 2015.
- 10 Miodrag, N., Burke, M., Tanner-Smith, E. and Hodapp, R.M. (2015) 'Adverse health in parents of children with disabilities and chronic health conditions: A meta-analysis using the Parenting Stress Index's Health Sub-domain', *Journal of Intellectual Disability Research* 59(3): 257–271.
- 11 Pinquart, M. and Sörenson, S. (2007) 'Correlates of physical health of informal caregivers: A meta-analysis', *Journal of Gerontology: Psychological Sciences* 62(2): 126–137.
- 12 Data from the 2001, 2004 and 2008 panels of the Survey of Income and Program Participation (SIPP) are used for this project. The SIPP is a multi-panel longitudinal survey conducted since 1984 by the U.S. Census Bureau and is commonly used in disability policy research. Available at: <http://www.census.gov/sipp/>



contributions. Defined benefit (DB) plans are those offered by employers in which the value of the pension at retirement is based on some combination of earnings over a period of years and years of work for this specific employer. The benefit at retirement is defined, but the contribution from each employee towards that benefit may vary by employer. Defined contribution (DC) plans are those in which the employer offers a pre-tax retirement savings plan into which the employee contributes some percent of earnings each month. The employer may or may not also contribute money, in the form of matched savings, to this plan. There is another, smaller category of defined contribution pension in which the employee has opened a private, non-employer-based, individual retirement account (IRA). The benefits at retirement in both the DC and IRA plans are whatever the employee has managed to save, which in the DC plan may include some contribution by their employer. The benefits of the DC and IRA plans are that they are owned by the employee and are portable as employees move to different employers.

Using sample survey data representative of the U.S. population between 2001 and 2008, we define women, ages 40–69 and not yet retired, as caregivers if they report having not worked or having taken time off work to care for others, or if they report having provided care for someone in or out of the home in the month prior to the survey. There are 40,552 women included in this study. These women are divided into four categories of caregiving: those who care for a minor child (under age 19, 27.3 per cent of the sample), an older adult (age 65 or older, 2.4 per cent), a working-age adult with a disability (ages 19–64, 1.2 per cent), or no one (71.2 per cent). A small proportion of women report more than one caregiving category. Just over 60 per cent of women report owning a DC and/or DB pension plan, with an average value of USD 46,453 among those who have pension savings. Household pension values for this group are larger, at USD 108,709 on average. Eighty-three per cent of these women report having worked at a paid job for at least six months of their adult life; two-thirds report they mostly work full time. Sixty-five per cent of these women report they are married, another 25 per cent reporting they are divorced, widowed, or separated from their husbands, and the remainder have never been married. Fifty-five per cent report their health status as very good or excellent.

## Health status and pension values

**Table 1: Pension ownership and value, and health status by caregiving category (USD)**

Caregiver for:	No one	Adult w/disability	Older adult	Minor child
Defined contribution plan/IRA (%)*	44.0	22.5	26.3	43.1
• value of plan if owned (current workers only) (USD)*	47,973	32,767	34,965	45,503
Defined benefit plan (%)*	17.7	9.5	8.9	16.8
Household pension savings (%)*	59.2	35.2	43.8	65.6
• value of household pensions if owned (USD)*	106,831	82,177	87,590	113,740
Household net worth (USD)*	271,078	199,237	228,049	353,066
Months off work (mean)*	6.3	34.7	38.5	44.3
• as a share of adult years (%)*	1.5	8.5	9.3	11.0
Health status is excellent or very good (%)*	54.6	37.0	37.9	58.5
Health status is fair or poor (%)*	16.4	24.9	23.6	13.5

\* Significant difference between categories; red print highlights caregiving categories that are significantly different from non-caregivers.

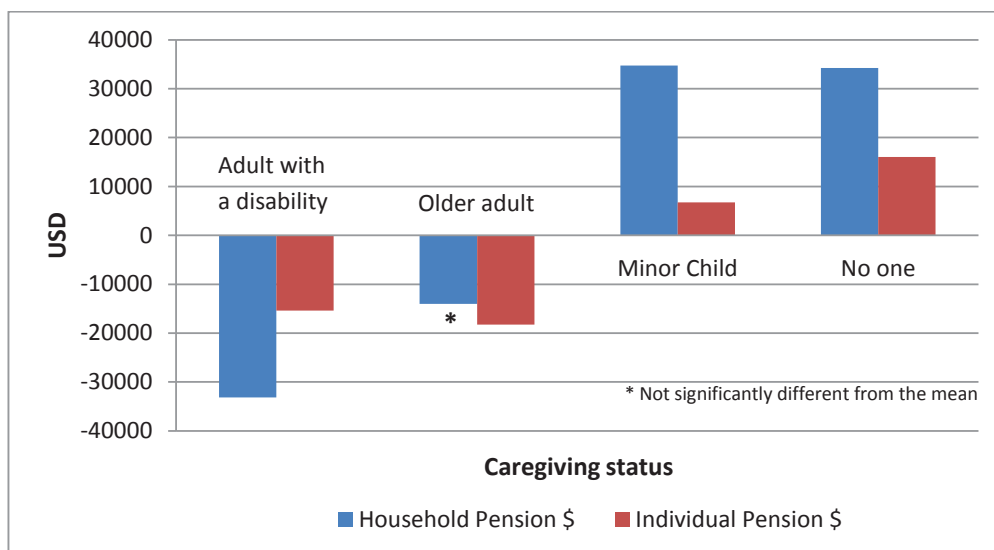
In Table 1, the women are divided into categories based on caregiving. These bivariate results suggest there are significant pension costs associated with caregiving, particularly for those caring for a working-age adult with a disability or for an older adult. There are also significant differences in reported health status, with those caring for no one or for a minor child much more likely to report excellent or very good health status and much less likely to report fair or poor health status than those caring for a working age adult with disabilities or an older adult.

We estimate both the odds of owning or participating in a personal pension savings plan (DB, DC or IRA) and the value of pension savings, controlling for age, marital status, education, race/ethnicity, percent of time off work, and whether most work was full time. The odds of having personal pension savings are 27.5 per cent lower than average if caregiving was for an adult with disabilities, 28 per cent lower if caregiving was for an older adult, 38 per cent higher if caregiving was for a minor child, and 44 per cent higher if the woman was never a caregiver. The odds of owning or participating in a personal pension plan are 22 per cent lower if health status is good and 66 per cent lower if health status is fair or poor rather than excellent or very good. Figure 1 shows the value of individual and household pension savings, relative to the mean value, by caregiving category. The household mean pension value is USD 63,670. The individual mean pension value is USD 30,805. We further examine the interplay among health, caregiving status and individual pension value. We find that health status is a significant mediating factor, accounting for just over 26 per cent of the effect of caregiving on individual pension value for those caring for either an adult with disabilities or an older adult.

## Conclusions and discussion

Caring for a working-age adult with disabilities has a disproportionate and negative association with participation and value of savings held in pension plans, even at the household level. Health status mediates the relationship between caregiving and pension values. Lower health status among caregivers has an impact on work history over the life course, ultimately influencing the value of work-related personal pensions, and possibly the value of federal Social Security benefits as well.

**Figure 1: Individual and household pension savings, non-retired women ages 40–69, by caregiving status**



Caregiver credits are nearly universal in the EU, though mostly for child care. Some developed countries pay contributions for mothers who have never worked or who have taken a career break. Some countries split household contributions towards national pension systems, allocating half to the account of each spouse. Most of these countries also have strong supports for working parents through other public social systems.



One positive policy direction in the U.S. is the Achieving a Better Life Experience (ABLE) Act, enacted in December 2014 and effective in each state as soon as implementing legislation is passed at the state level.<sup>13</sup> This legislation is similar to state 529 plans for education, allowing people with disabilities (identified before age 26) to open special accounts where they can save up to USD 100,000 (USD 14,000 per year) without risking eligibility for Social Security and other government programmes. Funds accrued in ABLE accounts can be used to pay for education, health care, transportation, housing and other expenses.

As the baby boom generation in the U.S. retires, political focus on pension policy and on costly health-care programmes, both public and private, are already beginning to intensify. These results provide a better understanding of factors that may influence pension savings, income, and health status of parents by their caregiving role. Especially for a relatively small but very important group, parent-carers, greater attention is needed in addressing influential risk factors (e.g. health status) that relate to their pension savings.

## India: Social Insurance Schemes in the Social Media Era

by S. Jayaprakash\*

*This article discusses India's evolution in terms of population growth and the development of social media. It also describes the challenges the country is facing in bridging the gap between the growing need for health-care infrastructure and social insurance, and provides some suggestions on how to bridge that gap. The article concludes by discussing how the recently promoted social insurance scheme has performed and suggests ways in which it can be improved.*

### Growing society and growing social media

India today has a competitive edge in many respects. It is expected to overtake China by 2050 as the country with the world's largest population: the positive side of this demographic trend is the enormous manpower potential it creates; however it also creates a major challenge in terms of providing health care for its citizens and promoting social insurance.

Over the same period, the growth of social media in India is expected to be very high. According to the report *Social Media in India 2014*, jointly released by IAMAI and IMRB International, social media users in the country had reached 143 million as of April 2015, with rapid uptake seen in rural India where the user base in the last one year doubled to 25 million.<sup>14</sup> This growth of social media usage has stirred interest amongst big companies like Facebook and Google. It has also spurred the creation of various health-care start-ups in India that provide various kinds of health-care services to customers via the Internet such as specialist advice, telemedicine, etc. Most of them, however, are focusing only on niche segments and it may take a long time to cover the entire country, especially rural areas.

India is a socialistic state; the government has introduced many welfare measures for its citizens such as free medicine, free treatment in government hospitals and some degree of old-age pension. It also provides money to the family members of pension beneficiaries who die due to a natural calamity, or accidents that have occurred due to inadequate government regulation, for example, railway and road accidents, accidents due to poor road infrastructure, epidemics, etc. This is the only form of alternate risk management mechanism that the government has adopted to safeguard families from the distress of financial constraints. The compensation amount also varies

\* Author is co-founder and vice-president of Nanobi Data and Analytics, Bangalore and has more than two decades of experience in Insurance sector ([jayaprakash@nanobianalytics.com](mailto:jayaprakash@nanobianalytics.com)). Views are personal.

<sup>13</sup> <https://www.congress.gov/bill/113th-congress/house-bill/647>

<sup>14</sup> See [http://www.iamai.in/PRRelease\\_detail.aspx?nid=3582&NMonth=6&NYear=2015](http://www.iamai.in/PRRelease_detail.aspx?nid=3582&NMonth=6&NYear=2015)

depending upon various factors like the nature of the accident, place, sensitivity, etc., from INR 10,000 to a several INR 100,000.

In the earlier part of the 20<sup>th</sup> century, India had a strong “joint family”<sup>15</sup> system. Under this system—the best insurance mechanism at the time in India—dependents of deceased persons were cared for by the other family members. With the growth of urbanisation, many families have split up for economic and logistic reasons, and slowly India is witnessing the death of the joint family system. Many poor people have already migrated to urban areas because of declining agricultural and related economic activities in rural areas. Ambitious plans by the Narendra Modi government to build 100 smart cities is going to further intensify this urbanisation trend.

### Directionless direction

Many people living below the poverty line (BPL) have very uncertain futures and live from hand to mouth. Their access to health-care facilities is very limited due to various factors such as lack of a daily income, poor doctor–patient ratio, poor hospital bed ratio, etc.

The *National Health Profile 2015*<sup>16</sup> recently released by the Central Bureau of Health Intelligence paints a grim picture, in particular with regard to the longevity of common, poor citizens. Here are some highlights:

- India considers infrastructure an important indicator for understanding its health-care policy and welfare mechanism, yet with one government hospital bed catering to approximately 1,833 patients, the data are not favourable.
- India has not reached its ambitious goal of spending 2 per cent of GDP towards health care. Instead, health spending is dwindling: statistics show that, in 2011–12, the share of total public expenditure on health was 35 per cent, and fell to 33 per cent in 2012–13 and to 30 per cent in 2013–14.
- Out-of-pocket expenditure has increased steadily over the years: the rising awareness of diseases has led to more diagnoses as well as increased expenditure on medicines, consultations, etc.
- Non-communicable diseases in India are on the rise: heart disease (24 per cent), cancer (6 per cent) and diabetes (2 per cent) are now the leading causes of mortality in India.
- The increase in pollution is taking a significant toll: nearly 3,000 deaths in 2014 were related to acute respiratory infection (ARI).

Hence, the longevity of poor people is a big question mark. These people do not have access to any form of insurance. Some families are lucky to receive money from the government for family members whose death happens to be due to a form of accident or epidemic, as mentioned earlier in this article.

At this juncture, insurance is deemed to be one of the best risk-mitigating mechanisms for the masses. Though the Insurance Regulatory and Development Authority (IRDA) stipulates that all insurance companies must comply with a minimum percentage of rural coverage, there has still not been any significant impact even 16 years after the liberalisation of the insurance sector. Hence, the government has brought out a major insurance scheme under the banner ‘Pradhan Mantri Insurance Scheme’.

### About the Pradhan Mantri insurance scheme 2015

Insurance is not only a form of risk management but also a mechanism to protect the economy. Even after liberalisation in 1999, insurance penetration hovers around 3.9 per cent of GDP, which is far behind the world average of 6.5 per cent.

In India, insurance continues to be sold, not bought. Unless the population has had previous experience with insurance, it does not understand the importance of it. This may change thanks to the Narendra Modi government’s initiative to introduce the Pradhan Mantri Jeevan Jyoti Bima Yojana, which offers life insurance coverage of INR 200,000 at a premium of INR 330 per annum for those aged between 18 years and 50 years, and the Pradhan

15 An extended family consisting of several generations living in the same home.

16 <http://www.cbhidghs.nic.in/E-Book%20HTML-2015/index.html#2-3>



Mantri Suraksha Bima Yojana, which is an accident insurance plan at a premium of INR 12 per annum for the age group 18–70. The government has also introduced 'Atal Pension Yojana', which offers a fixed monthly income of between INR 1,000 and INR 5,000 during old age depending upon the contributions. Comparatively, because poor people have less longevity, the government has designed these low-premium high-benefit plans to maximize penetration to these segments.

In 2014, before the introduction of these schemes and to improve financial inclusion, the government announced the 'Jan Dhan Yojana' bank account scheme with the objective of bringing many people into the banking fold. Rules for enrolment were relaxed. Motivational factors were attached to this account, such as subsidy credit, loan credit, a RuPay card with free accident insurance coverage of INR 100,000, and more. Despite these benefits, official statistics show that only 155.9 million accounts have been opened and of these, 85 million held zero balance as of 13 May 2015. This means that about 50 per cent of these accounts are yet to be operational. So, mere numbers do not mean financial inclusion.

### **Making the insurance scheme work well**

Insurance schemes may suffer a similar fate as the Jan Dhan scheme if some amount of flexibility is not exercised at this point. While the banking scheme aimed at financial inclusion, the insurance schemes, because of factors such as inadequate health infrastructure, larger numbers of dependents, more urbanisation, etc. have higher significance for poor people. Hence, some suggestions for improving the reach of these schemes are provided here.

For starters, these schemes do not have any great subsidy component, which means that the premium may fluctuate year after year depending on experience. Also, the target age group of 18–50 years for life insurance could be a cause of concern, as people in this age group are generally confident about experiencing higher, normal longevity. But all would be unsure of accidental death and hence want to get insurance for it.

Already the majority of people may have 'missed the bus'; the government announced that they were waiving the health declaration requirements for people who avail themselves of these schemes before 31 August 2015. But there is not much reach despite such motivational factors, as statistics show. As of 31 August 2015, 112.8 million insurance and pension schemes were bought: 84 million for accident insurance, 27 million for life insurance and a mere 729 thousand for pension. This means that people are already aware of accident cover and are buying it, while policies for life insurance and for pension are not very popular. It should be noted that not all the distribution channels were showing enough interest to promote the scheme, as the commission is small when compared to the work involved. It has to be made clear that, though the government brought this out as a social measure, not all the channels took it as such, but rather as a commercial measure, leading to lesser penetration than expected.

Some of the political parties have shown interest in funding premiums for a select category of citizens. For example, some political parties have paid premiums for 10,000 people in a particular town/village to bring them under insurance cover, but the big question is the continuity of premium payments in such cases, because the premium rate also depends upon continuity, lapses, new member enrolment, claims made and other factors. The lapse ratio in the industry in general is high. So, if 30 per cent of policies lapse during the second year, the premium rates for continuing members will increase, which will lead to further lapses in the following year. Also, the expense component charged in the premium is very small, about 15 per cent. It may not be enough to probe claims thoroughly and can lead to an increase in the number of fraudulent claims. If that happens, it will indirectly increase premiums. So, while people may leave by lapsing, lack of control may motivate fraudsters to join, thus creating a double blow. (Though the government foresees no upward revision of premiums in the first three years, there is also a disclaimer 'due to unforeseen circumstances').

One way to avoid such a situation is to enrol more genuine people in the schemes. Studies indicate that the insurable population in India is expected to be around 750 million in 2020, with life expectancy reaching 74 years. Therefore, we need to have bank account penetration of that magnitude.



To bring more people under this net, extending the product design would be a good move. According to the Indian Assured Lives Mortality (2006–08) table,<sup>17</sup> effective 1 April 2013, the probability of death compared with age of 50 (which is the current maximum age limit for enrolment) increases manyfold at the ages of around 58, 63, 67 and 70. Hence, charging extra premium for older categories, without denying insurance, could be an option. Proper controls can cut losses.

Bringing higher age groups under insurance also has a sociological angle to it. These days, many families struggle with paying for themselves and taking care of their children's needs such as education and marriage. Big financial challenges come up after a person turns 55. Charge them an extra premium, but allow participation. This will increase the population base.

Frauds are prevalent to the tune of 15–20 per cent in the insurance sector. To reduce this, make it mandatory for claims to be settled only through processes such as using Aadhar (a 12-digit unique identity number) whenever possible. In an era of statistical advancements in analytics at reasonable costs, use fraud analytic techniques to spot possible fraud patterns and create a system of mobile phone alerts to avoid frauds.

Insurers should understand that the government is enabling the population to experience insurance. Hence, it is important for insurers to leverage more cross-selling and up-selling of regular insurance schemes. For example, selling simple general insurance schemes such as home insurance or jewellery insurance will help cross-subsidise any losses arising from the government schemes in the long run.

### **Conclusion—bridging the gap**

Insurance in India is about creating awareness so that people can buy. There is no dearth of social media activists, social media coverage, etc. in India. What we lack now is bridging the gap so as to promote such social insurance schemes to bring more people under the insurance net, which will also reduce the burden on government.

There are lots of health-care start-ups and also a lot of venture capital funding going on in India's health-care space; one key element to retain in all these ventures is to promote social insurance schemes through social media for more enrolment and to cover more poor people within the health-care net, which will also reduce the claims in the accident and life insurance portfolio.

While in the past, many social insurance schemes have been launched but have failed to achieve their objectives, the current government has taken good steps to make sure that its policies work. The waiving of the health declaration requirements for three months up to 31 August 2015 was a step in the right direction towards bridging the gap. At this juncture, Government should consider extending not only the deadlines but also include other age brackets as well with necessary controls and also try to leverage on the emerging start-up culture to make these schemes reach out to the masses.

<sup>17</sup> [http://www.actuariesindia.org/publication/IALM-Mortality\\_Tables\\_\(2006-08\)\\_ult%20.pdf](http://www.actuariesindia.org/publication/IALM-Mortality_Tables_(2006-08)_ult%20.pdf)





# 12th Geneva Association Health and Ageing Conference

## Insuring health care for the elderly in Asia

16–17 November 2015

Singapore

Hosted by the Singapore College of Insurance and supported by ACR Capital Holdings

### Day 1 Monday 16 November

#### Session 1. Longevity and health determinants of the elderly in Asia

- Longevity evolution: international comparisons and future prospects. Analysis of Asian data, *Dr Daria Ossipova, Head of R&D – Life related risks, SCOR Global Life, Paris*
- Ageing and health of older persons in the Asia-Pacific region: success and challenges, *Prof. David Phillips, Chair Professor of Social Policy, Lingnan University, Hong Kong*

#### Session 2. Health care and new health technology for an ageing population in Asia

- Healthcare for ageing—Making healthcare accessible and affordable through technology, *Swami Swaminathan, Executive Chairman, Manipal Health Enterprises, Bangalore*
- Health care technology management—Europe and Asia walking together, *Dr Nicola Pangher, General Manager Foreign Operations, TBS Telematic & Biomedical Services Group Spa, Trieste*

#### Session 3. Financing health care for the elderly in Asia

- The implications of ageing on health costs and health policies: evidence from the East Asia Pacific region and beyond, *Aparnaa Somanathan, Senior Economist, Health, Nutrition and Population Global Practice, World Bank*
- Fiscal sustainability of healthcare financing in Asia: Challenges and responses, *Dr Kelvin Bryan Tan, Director, Policy, Research and Economics Office, Ministry of Health, Singapore*

#### Session 4. Insurance opportunities to cover health care for the elderly in Asia

- The consumer perspective on funding the costs of old age care in Asia, and the role of the insurance industry, *Marianne Gilchrist, Director, Head of Solutions Groups Asia, Swiss Reinsurance Company Ltd, Korean Branch*
- Current and future developments of long-term care needs in China and opportunities for insurers, *Dr Xian Xu, Director, China Insurance and Social Security Research Center, Fudan University*
- Innovative products and service solutions for the elderly, *Dr Olaf Kliesow, Global Life & Health, Allianz SE*

### Day 2 Tuesday 17 November

**Keynote Address: Asia's diabetes challenge, Karl-Heinz Jung, Head of Japan, MENA & International, Asia Capital Re**

#### Session 5. Insurance solutions for elderly health care coverage in Asia

- Securing sustainable insurance markets for old age health care—Lessons for Asian economies, *Freddy Schnitzler, International Health Consulting, Former Vice President of Samsung Fire & Marine Insurance*
- Using risk based incentives and wellness programs to foster healthier behaviors, *Jeff Wu, Regional Head of Accident and Health, Generali Asia*
- Product innovations in Critical Illness, *Chris Reynolds, Head of Life Solutions Actuarial, PartnerRe, Zurich*

# CALL FOR PAPERS

The Geneva Association is pleased to announce  
a special October 2016 issue of

## *The Geneva Papers on Risk and Insurance Issues and Practice* on **Health**

We encourage you to submit contributions related to the following areas:

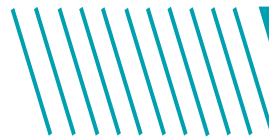
- The impact of integrating an ageing population in health insurance systems
- New health technology and insurance
- Development of health care systems and the capitalisation debate
- The interaction of public and private systems in health care provision
- Insuring and managing long-term care risks
- Health issues for an ageing population in the workplace
- Risk classification in health insurance
- Climate risks and its impact on health and insurance.

Suggestions for other topics will be considered by the editors.

All contributions will go through a refereeing process. The editors for this special issue are Christophe Courbage (The Geneva Association) and John Nyman (University of Minnesota). Papers should be submitted electronically via the website of The Geneva Papers (<http://gpp.msubmit.net/cgi-bin/main.plex>) by **9 December 2015** at the latest.

For further information on The Geneva Papers, visit <http://www.palgrave-journals.com/gpp/>

For further information on this special issue, please contact Frederick Schlagenhaft at [frederick\\_schlagenhaft@genevaassociation.org](mailto:frederick_schlagenhaft@genevaassociation.org)



# Career Opportunity Director, Global Ageing

## The Geneva Association

Leading international insurance economics think tank, The Geneva Association, is looking for a 'Director, Global Ageing', a key pillar of the Association's activities. The successful candidate will lead the Association's research in this area, including the development of expert networks in the field and the oversight of relevant publications and reports. S/he will also be central to the Association's dialogue on global ageing with Members, NGOs/IGOs, the wider industry, academia and other stakeholders. S/he reports directly to the Deputy Secretary General. The working language is English and the position is located in Zurich. The position is part-time if linked only to Global Ageing but would be full-time if the candidate can also steer some emerging insurance topics like e.g. Cyber Risks.

Key tasks of the role of Global Ageing include

- Produce and ensure quality research on global ageing
- Build and maintain professional relationships and ongoing discussions with other institutions, international organisations: UN, World Bank, OECD, etc. as well as with academia and in-house research departments of insurance companies
- Keep up to date regarding the relevant topics of global ageing
- Lead the global ageing working group
- Organise global ageing seminars and conferences
- Manage work-streams for preparing papers and reports against set deadlines
- Build and maintain a network with insurance experts

Qualifications of the candidate

- Masters degree or PhD in economics, finance, actuaries or relevant fields
- Relevant experience in insurance/global ageing research (optional: +emerging insurance topics)
- Having an existing network in the field of global ageing (optional: +emerging insurance topics)
- Ability to build strong relationships with external actors—cultivate productive relationships with partners and other important institutions
- Outstanding publication record in insurance journals and relevant international publications
- Very good organisational, writing, interpersonal and communication skills
- Strong commitment to the insurance industry's role in the economy and society
- Readiness to travel internationally
- Language skills: English, other languages an asset

Starting date: as soon as possible

Application package should include a CV, a motivation cover letter, name and contacts of two references and indication of the possible start date. The application package should be sent to Claudete Rode Maier at The Geneva Association via email to [applications@genevaassociation.org](mailto:applications@genevaassociation.org)

To learn more about us, visit our website [www.genevaassociation.org](http://www.genevaassociation.org)

# 2016 Geneva Association Research Grant on Cyber Risks

Each year, The Geneva Association awards one research grant for submissions—usually doctoral theses carried out in the field of risk and insurance economics.

The grant is worth CHF 10,000 and covers a period of 10 months. The grant is intended to support research on a specific theme, whether this is in the form of a thesis leading to a doctoral degree or a research paper on that specific theme.

The theme of the 2016 research grant is Cyber Risks. Suggested topics for the 2016 research grant are:

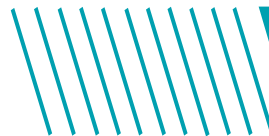
- Definition and assessment of cyber risks
- Insurability of cyber risks
- Quantification of the risk transformation from traditional risks towards cyber risks
- The impacts of cyber risks on society and individuals
- Regulatory demands, e.g. a global standard for cyber risks
- Data availability/data exchange on cyber risks
- Innovative ways to manage cyber risks
- Insurance products and (re)insurance markets to cover cyber risks
- Public and/or private cyber risk insurance pool to mitigate the number of claims and accelerate the maturity of the cyber insurance market.

Suggestions for other topics related to the theme of Cyber Risks could also be considered.

The deadline for submissions is **11 December 2015**.

Applications should be addressed to [secretariat@genevaassociation.org](mailto:secretariat@genevaassociation.org), The Geneva Association, "Research Grants", Talstrasse 70, CH-8001 Zurich.

Applications must be accompanied by a curriculum vitae, a research proposal and letters of recommendation from two professors of economics.



## THE RESEARCH PROGRAMME ON HEALTH AND AGEING

The Health and Ageing Research programme of The Geneva Association seeks to bring together analyses, studies, facts and figures linked to issues in health provision and the role of insurance, with an emphasis on the changing demographic structure whereby the population over 60 years old largely exceeds that of other groups. The key is to test new and promising ideas, linking them to related works and initiatives in the health sector and to try to find solutions for the future financing of health care.

We are particularly interested in the impact of an ageing population in health insurance systems; the development of insurance for long-term care risk; the effect of technology on health insurance; development of health-care systems and the capitalisation issue; the interaction of public and private systems in health provision; performance of health systems; health issues for an ageing population in the workplace.

### The Geneva Association

The Geneva Association is the leading international insurance think tank for strategically important insurance and risk management issues.

The Geneva Association identifies fundamental trends and strategic issues where insurance plays a substantial role or which influence the insurance sector. Through the development of research programmes, regular publications and the organisation of international meetings, The Geneva Association serves as a catalyst for progress in the understanding of risk and insurance matters and acts as an information creator and disseminator. It is the leading voice of the largest insurance groups worldwide in the dialogue with international institutions. In parallel, it advances—in economic and cultural terms—the development and application of risk management and the understanding of uncertainty in the modern economy.

The Geneva Association membership comprises a statutory maximum of 90 chief executive officers (CEOs) from the world's top insurance and reinsurance companies. It organises international expert networks and manages discussion platforms for senior insurance executives and specialists as well as policymakers, regulators and multilateral organisations. The Geneva Association's annual General Assembly is the most prestigious gathering of leading insurance CEOs worldwide.

Established in 1973, The Geneva Association, officially the "International Association for the Study of Insurance Economics", has offices in Zurich, Switzerland and is a non-profit organisation funded by its Members.

---

### The Health and Ageing Newsletter, N° 33, October 2015

This newsletter for Health and Ageing is linked to the research programme on Health and Ageing and is published biannually in April and October. For information and suggestions, please write to the Editor at the Geneva office. To subscribe to the e-Newsletter, please go to <https://www.genevaassociation.org/subscriptions>

Editor: Christophe Courbage, [christophe\\_courbage@genevaassociation.org](mailto:christophe_courbage@genevaassociation.org)

Available at [www.genevaassociation.org](http://www.genevaassociation.org)

The opinions expressed in Geneva Association newsletters and publications are the responsibility of the authors.

We therefore disclaim all liability and responsibility arising from such materials by any third parties.

© 2015, The Geneva Association, Talstrasse 70, 8001 Zurich, Switzerland.

ISSN: 1605-8283

ISSN: 1662-050X

## FORTHCOMING CONFERENCES OF THE GENEVA ASSOCIATION

### 2015

#### October

**20 Munich** **9<sup>th</sup> Geneva Association Chief Investment Officers' Meeting**, hosted by Allianz Investment Management (by invitation only)

#### November

**4 Rüschlikon** **11<sup>th</sup> Annual Liability Regimes Conference** on 'Mastering Accumulation and Bodily Injury Exposures in a Rapidly Changing Environment', hosted by Swiss Re (by invitation only)

**6 London** **11<sup>th</sup> Symposium on Insurance Strategies** (former Insurance and Finance Seminar) 'Consolidations in Insurance: What is it about?', hosted by Aviva

**16-17 Singapore** **12<sup>th</sup> Health and Ageing Conference** on 'Insuring Health-Care for the Elderly in Asia', co-organised with the Singapore College of Insurance

**17-19 Rüschlikon** **11<sup>th</sup> Chief Risk Officer Assembly**, on 'Technological and Societal Change', organised by Swiss Re (by invitation only)

#### December

**3 Paris** **COP-21 Event** 'Special Session on Climate Change and the Insurance Sector', co-organised with the OECD (by invitation only)

### 2016

#### February

**26 Zurich** **32<sup>nd</sup> Regulation and Supervision (PROGRES) Seminar**

#### March

**17 The Hague** **18<sup>th</sup> Meeting of the Annual Circle of Chief Economists (ACCE)**, hosted by NN Group N.V. (ACCE members only)

#### June

**8-11 Rome** **43<sup>rd</sup> General Assembly of The Geneva Association**, hosted by the Italian Members (Members only)

#### September

**19-21 Nicosia** **43<sup>rd</sup> Seminar of the European Group of Risk and Insurance Economists (EGRIE)**

#### November

**tbc London** **12<sup>th</sup> Symposium on Insurance Strategies**

**3-4 Hannover** **13<sup>th</sup> Health and Ageing Conference**, 'Underserved consumers—Insurance solutions to close the health and longevity protection gap', hosted by Hannover Re

**28-29 Munich** **12<sup>th</sup> Chief Risk Officer Assembly**, organised by Munich Re