Editorial

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Created 13 years ago, the Health and Ageing Research Programme of The Geneva Association is aimed at better understanding the role of demographics, new technologies and insurance in the management of health risks in society. The key is to test new and promising ideas, linking them to related research and initiatives in the health sector and try to find solutions for the future financing of health care. This special issue of *The Geneva Papers* on health, the sixth in our bi-annual series, contributes to this thinking by investigating the role, function and development of health insurance markets.

Health insurance provides a way to reduce and distribute the financial risk associated with health-care expenditure, by sharing cost either through time or across individuals. Generally speaking, insurance has two main functions, namely to reduce risks through diversification and to aggregate or pool risks in order to better assess the probability of occurrence. In the case of health risks, an additional function of insurance that is often neglected is that of enlarging the set of goods and care accessible to sick and insured persons that would not otherwise be available to patients.¹ Health insurance schemes can be financed either publically through income-dependent mechanisms or privately through a premium independent of income. Private insurance can have various forms and can play various roles when it comes to financing health care.² Private health insurance can play either a leading role or a supporting role. It can also have a duplicate, supplementary or complementary function. In fact, the role of private health insurance with respect to public insurance is not unique and depends on the institutional setting. In particular, it depends first upon whether individuals buying private insurance are also eligible for part of the public insurance system; and second whether private insurance offers cover to health-care services that are already covered by public insurance. Private insurance includes a specific set of services through a risk-based premium. By aggregating many individuals with the same risk profile and independent risk exposure, insurers can estimate the average loss exposure. Yet in some cases, premiums set exclusively on the basis of individuals' risks can make the premium unaffordable for certain high-risk groups. Public authorities then typically impose community-rated premiums that correspond to a complete pooling of premiums across all risk types.

¹ Nyman (2006).

² OECD (2004).

The development of insurance schemes is confronted with various phenomena resulting from the so-called information asymmetries between insured and the insurer, and in particular the adverse selection and moral hazard phenomena. Adverse selection occurs when there is an over-representation of high risks in the insured population because insurers do not have proper information about individual risk to differentiate insurance premiums on a risk basis. Insurance becomes too expensive for low-risk individuals, ultimately leaving the insurer with a disproportionate share of high-risks. Moral hazard corresponds to a change in health behaviour and health-care consumption caused by insurance. Various forms of moral hazard exist,³ whether this is *ex ante* moral hazard, *ex post* moral hazard or dynamic moral hazard. *Ex ante* moral hazard refers to the possible disincentive to prevent health loss due to insurance while *ex post* moral hazard makes reference to a non-optimal increased use of health care or sick leave by insured individuals. Finally, dynamic moral hazard is associated with the trade-off between existing and new medical technology. To the extent that insurance gives access to the new technology on the same conditions as the old, it creates an incentive to the insured population to purchase the latest technology even if this is suboptimal, leading to dynamic moral hazard. These phenomena are responsible for various forms of deficiency in the optimal coverage of health risks and can limit the extension of health insurance mechanisms. A particular consequence is that a high level of premiums can be charged raising the issues of affordability of health insurance products. Group insurance or employer-sponsored insurance has developed as a way to face these concerns. Group insurance does not face underwriting and adverse selection issues. These contracts are cheaper to administer and have the potential to increase the number of people covered by private insurance.

The following papers offer nine contributions from a wide spectrum of perspectives to better understand these issues and in particular the function and development of health insurance markets. Not only theoretical and empirical issues are tackled, but practical aspects and policy implications are dealt with. All these contributions are illustrated in the light of various health systems with application to countries such as South Africa, Australia, Germany, Taiwan, the U.S. and Spain.

The paper of *Kathrin Roll, Tom Stargardt and Jonas Schreyögg* analyses the effect of type of insurance, income and reason for the appointment, on waiting times in outpatient care. They control for other socioeconomic variables as well as for institutional characteristics in a large, representative sample of the German population. Their results reveal that private health insurance plays a significant role in faster access to care at general practitioners and specialist practices. They also find that increased income has a negative effect on waiting time in specialist practices and on waiting time for obtaining an appointment with general practitioners.

The paper of *John Ataguba and Jane Goudge* uses the methodology of propensity score-matching to investigate the impact of private insurance via membership of a medical scheme in South Africa on health-care utilisation and out-of-pocket payments. The paper finds that, insurance coverage increases the use of private health services as would be expected but there is no significant effect on the use of public services.

³ Zweifel and Manning (2000).

Further, although health-care utilisation is higher for scheme members, such coverage does not result in lower out-of-pocket payments compared to non-members. This calls for a need to design health insurance in South Africa, in the form that not only ensures adequate utilisation of health services but provides financial protection to the insured as reflected in the current commitment for a National Health Insurance.

The paper of *Wei-Hua Tian, Joseph J. Tien, Chin-Shyan Chen* and *Tsai-Ching Liu* investigates the relationship between private health insurance and inpatient service utilisation under the National Health Insurance programme in Taiwan. They show that individuals with private health insurance are more likely to use inpatient services and spend more days in a hospital compared to those without private health insurance. This finding provides a good reference for government and insurance companies when formulating relevant health insurance policies.

The paper of *Joan Costa-Font, Alistair McGuire* and *Victoria Serra-Sastre* presents evidence of a link between insurance and technology diffusion in OECD countries. Their estimates intimate that higher degrees of private expenditure on health care correlate with higher levels of R&D in health care. However, their findings also suggest that increasing public funding for health care appears to lower technological adoption, which is consistent with the exercising of monopsony power and an objective of cost containment.

The paper of *Roger Feldman* focuses on employer-sponsored health insurance, the dominant form of health insurance in the U.S. Employers that offer multiple health plans may self-insure some plans and purchase insurance for the others. This paper offers two new arguments for the employer's choice of self-insurance versus purchased insurance that focus on moral hazard. This choice can be explained by a trade-off between administrator moral hazard, that is, the incentive for third-party administrators to be inefficient managers of self-insured employers' medical claims, which pushes the choice towards purchasing insurance, and employer moral hazard, that is, the insured employer's failure to invest in reducing health risks among its workers, which pushes the choice towards self-insurance. These explanations have not been analysed in the literature, but they are broadly consistent with data. Recent advances in measuring employees' health risk have reduced the impact of administrator moral hazard, leading to the increasing popularity of self-insurance over the past ten years.

The paper of *Montserrat Guillén* and *Adelina Comas-Herrera* presents a methodology to measure the risk of incurring extremely large individual lifetime costs of long-term care (LTC). Their estimates show that, according to their proposed risk measure, the Spanish public LTC system mitigates individual risk by more than 30 per cent compared to the situation where no public protection is available. Despite the current public Spanish LTC coverage, risk mitigation may still be too low since catastrophic costs of care persist and, therefore, they suggest that private insurance should be encouraged.

The paper of *Alex Robson* and *Francesco Paolucci* analyses three major policy tools that govern the demand for private health insurance in Australia: premium-related subsidies, income tax surcharges and lifetime community-rating. They develop a diagrammatic model that incorporates income heterogeneity and use it to consider two important policy issues: the effect of policy changes on consumer price responsiveness, and the effect of policy changes on the private health insurance take-up rates. The model

suggests that recent changes to the income tax surcharge are likely to reduce the price elasticity of demand for insurance, which could have further consequences for outcomes in the private health insurance market and the health system more generally.

The paper of *Luke Connelly* and *James Butler* investigates the Australian public health insurance scheme that includes insurance rebates for private fee-for-service medical practitioner services. They study the effect of two important changes to subsidies for General Practitioner (GP) services, the first of which increased the rebates payable for services provided to specific patient groups, and the second of which increased rebates payable for all patients. After offering various theoretical predictions, they present short-run empirical evidence, which suggests that the supply curve for GP services is backward-bending.

Finally, the paper of *Rafael Hernandez Barros* and *Maria Isabel Martinez Torreciso* explores the statistical analysis of the operational risks of health insurance companies in Spain from an external database of insured losses. This makes it possible to better understand the statistical behaviours of health insurers for the future completeness of data, selection of financial models and subsequent quantification of solvency capital with Solvency II. This is a first step in the standardisation of operational risk data to quantify and effectively predict operational risks in Spain.

We are convinced that this set of papers provides important messages for policy-makers and other stakeholders on how to efficiently manage the financing and organisation of health systems, and on the relevant role of insurance in covering health risks. This also is the function of The Geneva Papers to contribute to this debate and to serve as a rigorous forum for researchers. We hope that this volume indeed reached this goal.

This special issue would not have been possible without the help of external referees, who took the time to evaluate and review the papers in a very timely manner. We are indebted to them. Finally, once again, we have been privileged to benefit from the knowledge of all the authors who contributed to this volume. We express our deep gratitude to all of them for their contributions and we sincerely hope that you will enjoy reading their work.

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