tax and N is the total number of individuals. The identity in (4) says that the sum of the medical costs above the ceiling must equal the total revenue from the income tax. The compulsory premium will then be $y_i z$ and the net income $y_i(1-z)$ for each individual. As the expected health care costs differ among individuals, the taxation smoothes out the differences in expected income between risk groups.

Each individual is responsible for financing the part up to . Either he buys health insurance on the private market or pays the medical bills on an out-of-pocket basis as they come. This is a normal insurance decision and depends on the individual's attitude towards risk. With the largest losses covered by the state, the standard deviation as well as the insurable amount for an average medical cost that the market faces will decrease. As the variability is diminished - but not the numbers of policy holders - the required safety loading for private contracts is also reduced.¹¹ An important feature of a high-cost protection covered by the state is that the policies issued on the private market do not require as much safety loading per policy to be as safe as before the transition. To be distinct, we believe that safety loading in the mixed system with many competitive lowcost insurers approaches zero, i.e. $\lambda > \lambda^{hcp} > 0$, where λ denotes the safety loading in a completely free market and

is the safety loading for a low-cost policy in the mixed system.¹²

IV. Summary

In a recent article, the Secretary General of the Geneva Association, Professor Orio Giarini, claims that the notion of insurability will be increasingly adopted as a dividing line between the private and the public activities; everything private should find a private solution, and everything uninsurable should be taken into consideration as a public entity.¹³ Along these lines this paper gives a justification for a reorganization of health insurance.

In the light of a very skew medical cost distribution, we argued that the public health insurance scheme should be limited to expensive and uninsurable risks. In our proposal, health states in the interval [$\hat{m} + 1, m$] are to be covered by compulsory insurance. The cost of doing so is the expected value of medical expenditures in this interval at full coverage rate. The expenses for private insurance are reduced by this amount so that the taxes used to finance the public insurance is offset by a reduction in the private insurance premium. In addition, we claim that the highcost protection is welfare-improving. More specifically, compulsory high-cost insurance creates two advantages: (i) it reduces adverse selection effects by smoothing out the expected loss distributions and (ii) it increases the allocative efficiency by reducing the variability of an insurance unit on the private market for less severe illness.

References

- Arrow, K.J. and Lind R.C., 1970, Uncertainty and the Evaluation of Public Investments, American Economic Review, 60, 364-378
- Cummins, D.J., 1991, Statistical and Financial Models of Insurance Pricing and the Insurance Firm, The Journal of Risk and Insurance, LVIII:2, 260-302.
- Dahlby, B.G., 1981, Adverse Selection and Pareto Improvements through Compulsory Insurance, Public Choice, 37, 547-558.
- Eckstein, Z., Eichenbaum, M. and Peled, D., 1985, Uncertain Lifetimes and the Welfare Enhancing Properties of Annuity Markets and Social Security, Journal of Public Economics, 26, 303-320.
- Eisen, R., 1986, Wettbewerb und Regulierung in der Versicherung: Die Rolle asymmetri-