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Fair financing in Germany's public health insurance: Income-related contributions or flat premiums?

Heinz Rothgang
Mirella Cacace

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Universität Bremen • University of Bremen
Hochschule Bremen • University of Applied Sciences
Internationale Universität Bremen (IUB) • International University Bremen (IUB)

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Universität Bremen
Sonderforschungsbereich 597 / Collaborative Research Center 597
Staatlichkeit im Wandel / Transformations of the State
Postfach 33 04 40
D - 28334 Bremen
Tel.:+ 49 421 218-8720
Fax:+ 49 421 218-8721
Homepage: http://www.staatlichkeit.uni-bremen.de

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ABSTRACT

Social justice in health care insurance relates to both, the utilisation of services and the financing of the system. With respect to the latter, in its World Health Report 2000 the WHO promoted a concept of fair financing that asks for contributions to health care financing that are proportional to households' capacity to pay. This claim contains three dimensions: the rejection of risk-related premiums, the claim that all households with equal income should pay equal premiums (horizontal justice), and the suggestion that higher income should lead to proportionally higher premiums (vertical justice).

In this paper we first discuss the normative dimension of fair financing and develop a slightly modified version of the WHO's normative framework. Second, empirical findings based on WHO data and on data from the ECuity project are presented for selected countries. While the WHO concept does not allow drawing unambiguous conclusions, the latter shows, that Germany's system is regressive. With respect to the normative framework developed we can therefore conclude that future reforms should make the system more progressive. Against this background, two recent alternative strategies for reforming health financing, the *Bürgerversicherung* and the *Gesundheitsprämie*, are discussed. While both reform options are to be judged as more or less equivalent regarding horizontal justice and the rejection of risk-related premiums, some evidence is given towards the inferiority of the *Gesundheitsprämie* model with respect to vertical justice.

CONTENTS

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1. INTRODUCTION

After World War II Germany established a model of welfare capitalism, which became known as “Soziale Marktwirtschaft” (Erhard/Müller-Armack 1972). According to this model, the role of the state is twofold: on the one hand it has to set the framework for a competitive market environment in order to achieve an optimal resource allocation and on the other hand it has to correct “undesired” results of this market process – in particular with respect to distribution. Social insurance schemes as well as tax and transfer systems, correct market outcomes through their ability to redistribute income and wealth. Hence, one of the most important functions of the (welfare) state is to guarantee social justice. Social justice has become the central concern in the definition, the acceptance and in the legitimisation of social insurance schemes. Therefore it is a highly sensitive issue also for (de)legitimising health care systems.

”Just health care”, as shorthand for social justice in health care systems, refers to two aspects: the financing and the service provision of health care. With respect to service provision, the issue of concern is equal access to services for all people in need of health care. It is well known that even in systems with *de jure* equal rights of access *de facto* utilisation of services is heavily biased towards the middle and upper classes of society (Cooper/Sosna 1978; Townsend 1988; Cockerham 1992; Siegrist 1995). As a result, we observe morbidity and mortality rates, which are much higher in underprivileged parts of society (Mackenbach et al. 1997; Cavelaars et al. 1998). Over time, differences are stable or even increasing (Gerdtham/Johannesson 2000, Kühn 1993; Pappas et al. 1993; Daly et al. 1998; Phillimore et al. 1994; Dreyer/Whitehead 1997; Shaw et al. 1999; Pekkanen et al. 1995; Hallqvist et al. 1998; Valkonen 1998). The mode of financing, however, can also be evaluated with respect to social justice. This paper only deals with the latter aspect of just health care.

Although social justice is a central feature in the discussion about the German health care system, respective criteria are not expressed explicitly (Nullmeier/ Voruba 1995). Hence, a normative framework is needed in order to discuss ”fair financing”. In section 2 such a framework is developed starting from a recent approach from the WHO and the criticism it has provoked. In section 3 this framework is applied to different modes of health care financing in order to identify the meaning of ”just” taxes, contributions and out-of-pocket payments. In section 4 the topical German debate about a reform of health care financing is taken up. With respect to the normative framework developed, the status quo and two reform options are discussed, namely the *Bürgerversicherung* and the

Gesundheitsprämie. The conclusion of these discussions and their implications for the changing role of the state in health care systems is given in section 5.

2. NORMATIVE FRAMEWORK

In the World Health Report 2000 the WHO published a ranking of health systems performance of its 191 member states (WHO 2000). This ranking was based on a multidimensional measurement concept including the fairness of financial contribution as one performance indicator. In the subsequent sections, we first report the WHO concept of fair financing (2.1). Afterwards, we come to some conclusions about normative standards, which are based on the criticism of this concept (2.2). Finally, these conclusions are applied to the topical German discussion about health care financing.

2.1 The WHO concept of fair financing

The WHO perception of a fair distribution of financing in health care implies that ”…there should be a high level of pre-payment; risk should be spread (through cross-subsidies from low to high health risk); the poor should be subsidised (through cross-subsidies from high to low income); [and] the fragmentation of pools or funds should be avoided.” (WHO 2000: 93). According to this statement, high out-of-pocket payments are rejected because they are generally regressive, which means that they have a pro-rich distributive impact (van Doorslaer et al. 1999). A health care system, which is based on out-of-pocket financing also means that there is no (ex post) redistribution from the healthy to the ill. This may even lead to an insufficient treatment of those individuals with low ability to pay and exposes them to a considerable financial risk. Consequently, a high level of pre-payment is desirable, which is – according to the WHO – best achieved through tax-funded systems.[1] The pre-payment mechanism has to include the risk-pooling function.[2] In order to gain from economies of scale and thereby reducing the level of contributions, risk-pools should not be fragmented to a large extend. Nevertheless, multiple pools can exist, provided that their size and financing mechanisms allow for adequate spreading of risk and subsidisation of the poor (WHO 2000).

The WHO report does not go into conceptual details but refers at several points to corresponding technical papers instead (e.g. Murray et al. 2000, Tandon et al. 2000, Xu et al. 2000a, 2000b[3]).[4] Murray et al. (2000) define fairness of financial contribution as a

[1] It is, however, difficult to see, why – in this respect – tax-funded systems should be superior to contributions-based social insurance schemes as both types are forms of pre-payments.

[2] Modes of insurance that serve solely as an accounting mechanism, as this is the case with medical saving accounts, are rejected by the WHO concept (WHO 2000).

[3] Xu et al. 2000a and 2000b remain unpublished until today.

fair share of the total bill for a country that households have to pay. More precisely, the normative claim is that a health system is fairly financed if the ratio of total health system contribution of each household to that household's capacity to pay, is identical for all households, independently of their income, their health status or their use of health services (Murray et al. 2000). The health system financing contribution, which should be identical for all households, is formally expressed as:

$$HFC_i = \frac{HE_i}{ENSY_i}$$

where HE_i is the per capita expenditure on health of the household i, and $ENSY_i$ is the per capita effective income minus subsistence expenditure of the household i. HFC_i is the share of the household's income that is paid for financing health care. Fairness in financing is assured, if every household pays the same share of income $HFC_{i.}$

Per capita expenditure on health (HE_i) refers to all payment mechanisms like tax financing (including general taxation and excise taxes), social insurance contributions, and contributions to private insurance as well as out-of pocket payments. Although these funds flow from different secondary sources, the household is the basic unit of this analysis (Iglehart 1999).

The effective non-subsistence income of households (*ENSY*) is identical to the household's capacity to pay. This is calculated as effective income minus expenditure to maintain subsistence. Effective income is defined as "…the level of consumption that a household would seek and is able to consume, based on a life cycle perspective assuming that all households share a standard discount rate" (Murray et al. 2000: 14). In order to compute non-subsistence income, expenditures for food are subtracted from effective income (Xu et al. 2003). Due to the specific concept, the definition of expenditure to maintain subsistence does not include expenditure on health.

The claim of the WHO is that – if a health system wants to meet the requirements of fairness in financing – the *HFC* of all households (i...n) should be identical, which means that the HE is proportional to the household's capacity to pay. This claim contains three dimensions, which are the very core of the WHO concept:

(a) the rejection of risk-related premiums,

(b) the claim that all households with equal disposable income should make equal contributions to health care financing (horizontal justice), and

(c) the suggestion that higher income should lead to proportionally higher contributions leading to a constant share of income contributed to the nation's health care financing (vertical justice).

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[4] We consider the elaboration within the technical papers as a coherent part of the WHO concept and therefore do not discriminate between the concept as described by the WHO versus the description in the technical papers.

Moreover, no household should impoverish because of an excessive burden of financing health care. Therefore, it is necessary to define a margin from which on payments for health care, which are measured as a share of income, are to be considered as catastrophic. The WHO assumes that households, which spend 50% or more of their non-food expenditure on health care are likely to be impoverished (WHO 2000).

In order to corroborate their strong statement for proportional financing, the WHO tested ”social” preferences by an accompanying survey. A look at the questionnaire reveals that progressive financing was no response option in this survey[5]. From our point of view, this neglect is critical and leads to biased results. The survey was also heavily criticised for technical reasons (Williams 2001). It was conducted via internet by placing a questionnaire on the WHO website (Gakidou et al. 2000, Murray et al. 2000). About half of the 1,007 respondents were WHO staff members and half were visitors of the website. Although certain inconsistencies of answers were admitted by the research team (Gakidou et al. 2000) and no representativeness could be claimed for the survey, the results were taken as a validation of the normative concept. It is to assert, however, that – other than pretended by the WHO – proportionality, as widely accepted criteria for fairness of financial contribution, could never be confirmed by empirical results.

2.2 Discussion

Altogether, the WHO concept is to be judged as a bold approach to set a normative framework and thereby fills a gap in discussions about the evaluation of health care systems. It has to be acknowledged that such approaches generally provoke a range of criticism, because it is the nature of normative questions that there can be no right or wrong and no scientific settlement about disputes on value. Therefore, all we can do is to reveal contradictions within the concept and to point out our own position.

The concept of the WHO does neither relate to justice in the access to health care nor to the utilisation of health services. However, it also does not purport to capture these two issues (Wagstaff 2001). Thus, fairness in financing is solely concerned with the principle of contribution related to the ability to pay, but not with the principle of receiving care according to need. We accept this normative framework of the WHO in so far that we agree to the rationale to separate health care financing from utilisation when discussing the issue of social justice. Like (almost) all economists, we also think that

[5] The five options to the question of the “Preferred financing mechanism for a health system” were: 1. Everyone pays the same amount 2. Everyone pays for what they receive 3. Everyone pays an equal share of their income 4. Everyone pays an equal share of their disposable income 5. The richest 10% pay for everyone (Murray et al. 2000: 11). The most frequently given answer was No. 4. (The reader may make up his own mind concerning the question, whether this survey reflected the alternative financing mechanisms adequately.)

(any kind of) insurance against health risks is favourable for risk avoiding individuals (Arrow 1963). Due to this out-of-pocket payment is generally undesirable as it reduces the redistribution from the healthy to the ill. As health economists have highlighted, however, there might be a counter-argument as the complete absence of cost-sharing elements might encourage moral hazard behaviour. Thus, in order to raise efficiency, small out-of-pocket payments may be suitable – an insight also acknowledged by the WHO.

This issue of ex post redistribution has to be distinguished from the ex ante redistribution from good to bad risks. In this respect we share the WHO's firm statement against risk-related premiums and state that the subsidisation of the less favourable risk should be at the core of every just health care system. From a Rawlsian perspective, we can assume that all individuals behind the "veil of ignorance" wish to protect themselves against the risk of impoverishment due to possible health risks and therefore ask for an ex ante redistribution from better to worse risks.

The most important criticism of the WHO's normative concept, however, relates to the requirement of proportionality. Concerning vertical justice, the authors make clear that by their requirement of proportionality, the extent to which income is redistributed through a health care system should be limited. As the authors explain, "Societies may have a very important social goal to redistribute income […] but this can be achieved through many mechanisms unrelated to the overall financing of the health system" (see Murray et al. 2000: 9). This contradicts the normative concept underlying most tax financed health care systems with progressive tax financing where higher income leads to more than a proportional rise in contributions.

To straighten out our argument, we make clear that we do not challenge the notion that contributions should rise with income nor that a proportional payment system is superior to a regressive one. However, a system that additionally redistributes income from the rich to the poor is to be rated as more equitable according to our persuasion. Although defining the appropriate extent of vertical redistribution is a continuing problem for economists, philosophers, and political theorists (Barr 1992), we purport that a progressive system satisfies the criteria of social justice to a higher degree than a proportional one. Thus, in line with Wagstaff (2001, 2002), we argue that a health care contribution scheme should be at least proportional. With these refinements in mind, we use the WHO concept as a normative framework for the German reform options to be discussed in part 4.

3. MEASURING FAIR FINANCING

3.1 The WHO concept

Now that we have drawn the outline and summarised the main critique of the normative framework underlying the WHO concept, it is straightforward to focus on the operationalisation as well as on the empirical measurement of fairness in financing. For measuring purposes, the WHO has constructed an Index of Fairness of Financial Contribution (*IFFC*). For the computation of the index, the research team collected and estimated data, which are based on household surveys.

The *IFFC* relates individual variations in health financing contribution share (*HFC*) to its mean distribution $\overline{HFC}$. In so far, it is comparable to variance measure in statistic equation. The formula is:

$$IFFC = 1 - 4\frac{\sum_{i=1}^{n}\left|HFC_i - \overline{HFC}\right|^3}{0.125n}$$

The use of the cubic term instead of the square (as familiar with variance) gives a greater weight to values far from the mean (Wagstaff 2001). It weights highly that households which have spent a large share of their effective income on health and therefore particularly reflects those households at risk of impoverishment from high levels of health expenditure (WHO 2000).

The *IFFC* ranks from 0.0 to 1.0 and takes the value of 1.0 when every household pays the same fraction of their capacity to pay for health care. Therefore, an *IFFC*-value of 1.0 means complete equality of health system financing contribution share, which in turn means complete fairness in financing as understood by the WHO.

In order to compute the *IFFC*, empirical data of the distribution of household's financial contribution to health care (HE_i) and the household's capacity to pay ($ENSY_i$) were required. Both components were estimated using household survey data on income and household expenditure data for the year 1997. The households' income was assessed by a survey on households' expenditure. The survey period was set to be one month. In some cases, when the period was even shorter or longer, data were adjusted to monthly figures. For information on health expenditure, the WHO drew on government tax documents, national health account data, national accounts and government budgets. When no data on tax contributions was available, it was estimated from income surveys.

In-depth analysis has been conducted for selected countries, where information was available. For countries where such data was not available, the distribution of health financing contribution has been estimated using indirect methods based on a regression model and information on important covariates. All results are reported with uncertainty intervals in order to communicate to the user the plausible range of estimates for each country on each measure (WHO 2000).

Unfortunately, the sources describing analyses and estimates of fairness of financial contribution have never been made available to the public, although they were displayed in the references of the WHO report.[6] Nevertheless, the results were displayed in a league table in the statistical annex of the World Health Report (WHO 2000: Annex Table 7). Results based on estimations are indicated by numbers in italics. The *IFFC* was computed from household survey data in only 19 out of 191 countries. The data were estimated for more than 170 countries.

3.2 Criticism

The positive criticism of measurement is twofold: On the one hand it is questionable whether the *IFFC* is an adequate measurement for the issues postulated by the normative framework of the WHO, i.e. the question of *validity* (3.2.1). On the other hand it has to be discussed whether the data allow for the intended measurement, i.e. the question of *reliability* (3.2.2).

3.2.1 Validity of measurement

The *IFFC* will take the value of 1.0, if all households pay the same fair share of their income for financing health care. It decreases from 1.0 when health system financing is progressive or regressive, but without indicating towards which direction the violation of proportionality principle veers. Assuming that the *IFFC* should be apt to provide a basis for decision-making in health care reforms (Williams 2001), this causes serious problems for any policy-maker who thinks about an improvement of the *IFFC* value without knowing in which direction the system has to move. In so far, the index is only appropriate to support the WHO's normative concept, if the objective is to assess whether a system is financed by contribution rates proportionally to households' capacity to pay. If any deviation from proportionality is observed, and the objective might be to (re-) achieve proportionality, the index is not very helpful. We do not know whether the better off ought to pay a larger proportion of their capacity to pay, as would be recommendable in the case of regressive payments, or because the poor ought to pay a larger share than the better off (Wagstaff 2001). Since the index sums up all pre-paid and out-of-pocket form of payments, deriving reform options from the value of the index is exacerbated.

Similarly, a value of FFC that is different from 1.0 could result from horizontal inequity, from vertical inequity or from both. From a policy perspective, however, it is worth knowing, whether inequalities in health care system is due to horizontal or due to vertical differences. The *IFFC* is also sensitive to the average payment rate, which

[6] These are two particular documents, extracted from the reference sources of the World Health Report, namely Xu et al. 2000a and 2000b.

means that it varies with different average proportions spent on health care. To make one last point of the lacking discriminating power of the index, the *IFFC* is unable to separate any variation of an average proportion of income spent on health care from different degrees of horizontal or vertical inequality.

3.2.2 Reliability of measurement and data quality

Three years after the report's release Philip Musgrove (2003), a former member of the WHO research board on fair financing, named some deficiencies in the internal working process and distances himself from the rapidly collected and published results. In case the *IFFC* has been computed on survey data, the period of observation (one month) might be considered as too short to give an appropriate understanding of households' consumption behaviour. The mixing up of expenditure data, which was assessed in place of income data and the use of income data in order to estimate income tax, must necessarily have led to inconsistencies (Klavus 2000). Most suspiciously, even now, three years after the release of the report, details of the empirical work have not yet been posted on the WHO website.

Although values of the WHO fairness index are presented for 191 countries, in only 19 of these the index was computed from household survey data. Most of these 19 were developing countries. Indirect techniques, however, as used to estimate the missing data for over 170 countries, could only have been applied, if the countries were comparable (Klavus 2000). In many developing countries, the *IFFC* shows a relatively low level of inequality. This is even more surprising since most of these countries prevail a high level of out-of-pocket payments. There is no possibility to locate or to explain this bias, since no documentation of the estimations was made available setting out the methods used.

The *IFFC* runs from zero, which means complete inequality to one. No fewer than 147 out of 191 countries score 0.9 or above. Thus, it could be concluded that 147 countries do not deviate much from proportionality (de Graeve/van Ourti 2003). As Almeida et al. (2002) state the index provides little discrimination and therefore reflects poorly the inequities in financing of many countries. Uncertainty intervals are overlapping, so the *IFFC* loses even more of his discriminatory power.

The WHO admits that "... as with any innovative approach, methods and data sources can be refined and improved" (WHO 2000: 143). Indeed, proposals to improve data collection as well as computation methods were made by some scholars (e.g. Musgrove 2003, Klavus 2000, Williams 2001). Data collection could be refined using centrally collected panel data, which could be more uniform in structure. At the same time, it is necessary for participating countries to compromise on the accuracy of definition. A common forum, where methods and definitions could be discussed jointly, could be useful (Klavus 2000).

3.2.3 Discussion

Concisely, there are two major points of concern. First, the quality of data used by the WHO must be regarded as poor. Hence, it is suitable to look for additional data source, if empirical information about fair financing is required. Second, in order to differentiate whether a health care financing system is progressive or regressive another instrument supplementing the *IFFC* is needed. In the following section we will thus firstly amend data from the *IFFC* with additional analyses from the EC funded ECuity project and secondly present the Kakwani Index as an additional instrument.

3.3 Results for selected countries

In order to give an idea of the empirical results computed by the *IFFC*, some results of the assessment of fairness in financing for selected countries are displayed in table 1. We have selected six countries representing the three types of health care systems, which are the social insurance systems (Germany and France), two NHS systems (UK and Sweden), and finally two systems which rely mainly on private mechanisms in financing health care (US and Switzerland). All data are based on estimates for 1997.

Table 1: Fairness of financial contribution to health systems, selected countries

Rank	***Country***	*IFFC*	***Uncertainty Interval***
6-7	Germany	0.978	0.964 – 0.989
26-29	France	0.971	0.956 – 0.983
8-11	United Kingdom	0.977	0.963 – 0.988
12-15	Sweden	0.976	0.959 – 0.990
54-55	United States	0.954	0.929 – 0.974
38-40	Switzerland	0.964	0.948 – 0.979

Source: WHO 2000, Statistical Annex, Table 7

Apparently, the *IFFC* is close to one for these examples, suggesting that the countries do not deviate much from proportionality. Moreover, the uncertainty intervals are overlapping. Germany, for example, could move five positions upwards to the second position in the ranking, if we take the upper frontier of the uncertainty interval as reality. Whenever we take the lower limit of the *IFFC* as probabilistic, a downward movement by no less than 30 positions is possible. Table 1 thus reveals the limited discriminatory power of the *IFFC*.

Apart from that, the index does not show how the selected health care systems deviate from proportionality. However, since we want to discuss recent reform options for Germany thereafter, it is crucial to have this kind of information. An alternative concept of fair financing elaborated by the ECuity group[7] provides this information. The concept

[7] The ECuity group which gathered around Eddy van Doorslaer and Adam Wagstaff consists of participants from the following EU countries: Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands,

has been derived from Aronson, Johnson and Lambert's (1994) idea to separate the redistributive effect of an income tax into the vertical effect, the horizontal effect and a re-ranking effect. Van Doorslaer et al. (1999) applied this theory to health care contributions. One of the main findings of their work is that the vertical effect is much more important than the horizontal or the re-ranking component. The relative importance of the vertical effect, however, varies by source of payment.

We therefore focus on the deviation from proportionality, as measured by the Kakwani index (Kakwani 1977). The Kakwani Index takes values between -1 and +1, reflecting regressive payment respective progressive ones. The index indicates zero when proportionality is achieved. The Kakwani Index can be applied to all sources of payments. It is also possible to condense all modes of payment into one index. Totals reflect adequately the financing mixes by weighting the different sources in line with their share in total health care financing. This implies that both matter in judging vertical equity – the share the separate sources obtain and their pro-/regressivity (de Graeve/van Ourti 2003). In table 2 we present the results for the same countries.

Table 2: Progressivity indices for health care financing for selected countries

		Public Financing					**Private Financing**			**Total**
Country	*Year*	*Direct Taxes*	*Indirect Taxes*	*General Taxes*	*Social Insur.*	***Total Public***	*Private Insur.*	*Out-of-Pocket*	***Total Private***	
Germany	(1989)	0.249	-0.092	0.110	-0.098	-0.053	0.122	-0.096	-0.007	-0.045
France	(1989)	*	*	*	0.111	0.111	-0.196	-0.340	-0.305	0.001
UK	(1993)	0.284	-0.152	0.046	0.187	0.079	0.077	-0.229	-0.092	0.051
Sweden	(1990)	0.053	-0.083	0.037	0.010	0.010	**	-0.240	-0.240	-0.016
US	(1987)	0.210	-0.067	0.149	0.018	0.106	-0.237	-0.387	-0.317	-0.130
Switzerland	(1992)	0.206	-0.072	0.159	0.055	0.139	-0.255	-0.362	-0.295	-0.140

* France: Taxes are ignored because they account for a very small share of revenue, ** Sweden: No private health insurance

Source: Wagstaff et al. 1999

Direct taxes that finance health care in all countries are pro-poor in their redistributive effect (van Doorslaer et al. 1999). The size of the effect is fairly the same in all countries under consideration, beside Sweden. Indirect taxes, on the other hand, are regressive. Generally, that is, with the exception of Sweden again, the regressive effect of indirect taxes is much smaller than the progressive effect of direct taxes. Due to the combined tax effects taxation in general is progressive in all selected countries. Social insurance is pro-poor in all countries with the notable exemption of Germany. The existence of a contribution ceiling combined with the exit-option for high income earners makes the German system regressive. The total for all public schemes of financing health care

Spain, Sweden, United Kingdom. Other participants are from Norway, Switzerland and the United States. The ECuity project is accessible on the internet: http://www2.eur.nl/bmg/ecuity/.

is therefore pro-rich in Germany. In all other countries public health care financing is progressive.

Out-of-pocket payments are generally regressive in all countries. In Germany we still see a very low regressive effect of out-of-pocket payments. Unfortunately, however, all analyses performed by the ECuity group are based on rather old data. It must therefore be assumed that the regressive effect of out-of-pocket payments, after series of reforms have led to higher cost-sharing, is much higher in Germany today. The introduction of practice fees as part of the most recent reform certainly reinforced this development (see Pfaff et al. 2003). Private insurance, on the other hand, is not generally regressive. Table 2 shows progressive effects of this kind of health care financing for Germany and the UK – though on a comparatively low level. In the UK, private insurance is mostly taken out as supplementary insurance. Progressivity therefore is indicating that such insurance is a luxury good (Wagstaff et al. 1999). In Germany, where private insurance is mostly full coverage, only the better off buy private insurance. Thus, regressive effects are rather rooted in the barrier to entry into the private system than within the private system. In sum the private health care financing, including out-of-pocket and private insurance, makes systems in more regressive all cases .

Returning to the criticism of the *IFFC*, we find one country, France, where in sum nearly proportional payments are made for health care. The *IFFC* would value this system the best. If progressivity is accepted as a yardstick of fair financing, however, the UK should be rated higher. Thus, table 2 can be used to highlight the major point of criticism: The UK, as the only country, shows an overall progressive system of financing, while the others deviate from proportionality in the direction of regressiveness. This demonstrates the necessity to differentiate between the two directions of deviation from proportionality, if policy recommendations are to be derived from the analysis. Moreover, in the World Health Report 2000 France was only ranked 26-29 (see table 1). This emphasises the problems of data quality and the high sensitivity of the *IFFC* to data variations.

For the subsequent analysis of German reform options it is important to note – according to the assessment of Wagstaff et al. (1999), that the German system is regressive. It is supposed to be even more regressive to date, since cost-sharing has increased. Consequently, any reform leading to redistribution from the poor to the rich would improve the *IFFC* as well as the Kakwani index and move the system towards proportionality. With respect to fair financing, reform options are therefore evaluated positively, if they increase redistribution from higher to lower incomes and thus reduce the regressive effect of today’s system.

4. REFORM OPTIONS FOR GERMANY: *BÜRGERVERSICHERUNG* AND *GESUNDHEITSPRÄMIE*

In Germany the reform of health care financing is a topic of current interest. Two competing streams of reform options are prominent to this day, one option is the *Bürgerversicherung* (citizenship insurance) that will be presented in section 4.2, and the other consists of all proposals that might be subsumed under the title *Gesundheitsprämie* (per capita premium). We will come to the *Gesundheitsprämie* in section 4.3. Both proposals are made in order to improve the current system of health care financing. Therefore, we start by taking stock of the present German health insurance system in section 4.1.

The objectives of reform proposals are manifold. However, it is not possible to cover all aspects of recent reform proposals within this paper.[8] As the improvement of fair financing is part of the rationale of both concepts, we focus on the evaluation of the distributive effects. Thereby we refer to the criteria, which are derived from our discussion of the WHO concept and the *IFFC*, i.e. the refusal of risk-related premiums and the realisation of horizontal and vertical justice. The more progressive the financing scheme is, the better vertical justice is fulfilled.

4.1 Status quo

4.1.1 Institutional arrangements

In Germany, nowadays about 89% of the population is covered by the social health insurance system (SHI). Additionally, about 2% of the population is covered by special systems, and about 9% has full-cover private insurance.

The private health insurance (PHI) covers the better off employees, who have opted out of public schemes, self-employed, who are voluntarily insured, and civil servants (Beamte). At least 50% of the health care bill of civil servants is directly reimbursed by the government; in this case PHI covers only the remainder (Busse/Riesberg 2004). PHI premiums do not depend on income but on age, sex, and on health status as well as on the chosen benefit package. High risks are encountered by higher premiums due to risk adjustment, exclusion of services, and by denial of contracts. As a rule, the denial of contracts is observable if risk adjusted premium would exceed the regular premium. This is measured by the amount which a healthy individual of the same age and sex would have to pay, by 100% and more (Rothgang et al. 2005a). Unlike SHI, all spouses and children are also obliged to contribute.

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[8] For an overview see e.g. Nachhaltigkeitskommission 2003. For an in-depth discussion of the option *Gesundheitsprämie* see Rothgang et al. 2005b, and for the *Bürgerversicherung* see SPD Projektgruppe Bürgerversicherung 2004 as well as Sehlen et al. 2004

The German SHI contributions depend on income, with one minor exemption of the voluntarily insured without income, who have to pay a minimum amount. The premium is calculated on all earned income on a payroll basis. The average premium rate was at 14.2% in 2004. All members of one sickness fund face the same premium rate. However, since competition between sickness funds is allowed, contribution rates may differ from one fund to another. Contributions rise proportionally with income up to a contribution ceiling, which is to date 3,525 € per month.[9] An exit option allows employees, who have an income of 3,900 € per month and over, to choose whether to join a PHI or to remain within the SHI. Spouses, without significant income of their own,[10] and children are co-insured without any surcharges. The self-employed may choose to ask for coverage by a private scheme, with the consequence that contribution depends on age, sex and age of entry, or they may join a public scheme where their income from self-employment is the basis for premium calculation.

Out-of-pocket payments have gained ground within the SHI (Wendt et al. 2005, Pfaff et al. 2003). In 2004 the general exemption of low income earners from co-payments was abolished by Statutory Health Insurance Act. As compensation, co-payments for the chronically ill have been limited to 1% of annual gross household income, whilst for every other adult member of social insurance the limit is at 2% (Busse/Riesberg 2004).

4.1.2 Evaluation

An evaluation, starting from the WHO concept of fair financing, shows different results for the two systems of financing health care in Germany. We have to conclude, that the PHI is not compatible with the WHO concept of fair financing. Premiums are completely disconnected from the capacity to pay[11], but are instead risk-related. This is a contradiction to the requirement of horizontal and vertical justice. On the other hand, however, PHI may even rely less on out-of-pocket payments than does for example SHI – unless the insured opt for (high) co-payments. Nevertheless, we conclude that PHI has a negative effect on fairness in financing health care. The pure existence of a private scheme and the option for high-income earners to exit the risk-pool of the social health insurance makes the system regressive as a whole.

The SHI contribution is not risk dependent but in general it is related to income. We therefore find horizontal as well as vertical justice rather given in the SHI than in the private scheme. As we see from figure 1the contribution rate is slightly progressive for lower incomes up to 800 €. The contribution rate is proportional to income from a

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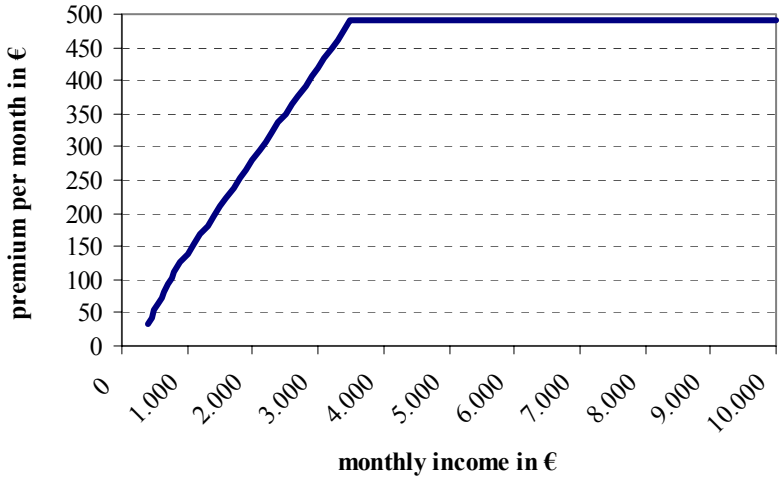
[9] For insured persons with little income (i.e. up to 800 € per month) special provisions are made.

[10] The respective income ceiling stands at 340 €. Due to some inconsistencies, however, sometimes even a higher income still qualifies for family insurance (for details see Dräther/Rothgang 2004: 30ff.).

[11] For simplicity we assume that the capacity to pay is identical with income.

monthly income of about 800 € up to 3,525 € per month. That is, according to the WHO concept, the most desirable way of financing health care.[12] All income earned above this margin is free of contribution, making the social insurance system considerably regressive.

Figure 1: SHI 2005: Contribution payments



Source: own depiction

The income threshold for compulsory insurance (Versicherungspflichtgrenze) has an even stronger effect on fairness in financing[13]. An exit option allows high income employees, from the income margin of 3,900 € per month, to leave the SHI and to join the PHI. The existence of this income threshold leads to an amplification of the strong regressive effect of the contribution ceiling for the SHI (van Doorslaer et al.1999). As we can see from the results of the ECuity project, these effects are dominant even when all sources of financing health care are considered together thus contributing considerably to the overall regressiveness of Germany’s financing system (van Doorslaer/Wagstaff 1998).

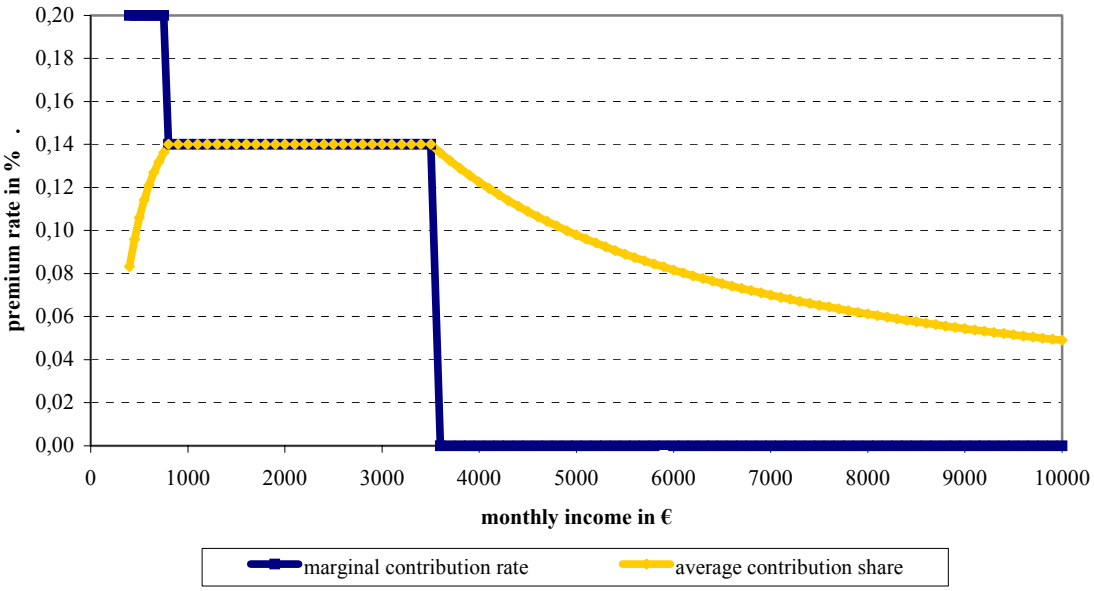
The marginal rate of contribution for a (hypothetical) system with a fair financing mechanism should be a horizontal line parallel to the income axis – for the whole income range, not just for a certain income interval. Under this condition, the average contribution share would also form a horizontal line and we would face a system with completely proportional premium payments. Proportionality is a minimum requirement according to the WHO concept but still not strong enough for our requirement of at least

[12] Formally, half of the contribution is financed by the employer. From an economic perspective, however, this ”employers’ share of the contribution” must be regarded as part of the wage. In fact, all contributions are paid by the employees, which serves as a justification for neglecting the whole area of employers’ contribution in this paper.

[13] Since figure 1 and the following figure 2 show single households, this aggregate effect cannot be displayed.

proportional rates. In a progressive system, marginal and average rate should increase with higher incomes. As we can see from figure 2, starting from a monthly income of 3,525 €, however, the average share declines and the marginal rate falls to zero.

Figure 2: SHI 2005: Marginal rate and contribution share



Source: own depiction

Earned income from gainful employment is relevant for the premium calculation in SHI. All other sources of income, as savings and capital incomes for example, are not included in the computation of premium rates. The financial burden is therefore solely charged on labour and not on capital, although capital gains play an increasing role in national income (SPD 2004). This is clearly a violation of the principle of horizontal justice, which in general is perceived as unfair.

A clear violation of horizontal justice also arises from the non-contributory inclusion of spouses. The WHO's assessment of fairness in financing departs from the household as the basic unit.[14] So – according to the concept of the WHO – all equivalent households with the same household income should pay the same contribution. In the German SHI, however, this principle could be violated, if the total household income exceeds the (individual) income ceiling of 3,525 € per month. Whenever households' income surmounts the contribution ceiling, it depends on the level of individual earning, how much in sum is to be paid for health insurance contribution. Table 3 demonstrates this effect for households with a monthly income of 7,050 €, just twice the income ceiling. Depending on the composition of this household income, any sum between 3,525 € and

[14] Households of different size are made comparable by adjusting household size with a simplified formula of the OECD equivalence scale (OECD 1982).

7,050 € might be the basis for SHI contribution. Deviation from the principle of horizontal justice is obvious.

Table 3: Distributional effects of the contribution ceiling on households

House-hold	***Income (in Euro) of…***			***Assessment base***		***Assessment base***
	Person 1	*Person 2*	*Household*	*Person 1*	*Person 2*	*household*
1	7,050	0	7,050	3,525	0	3,525
2	6,500	550	7,050	3,525	550	4,075
3	6,000	1,050	7,050	3,525	1,050	4,575
4	5,500	1,550	7,050	3,525	1,550	5,075
5	5,000	2,050	7,050	3,525	2,050	5,575
6	4,500	2,550	7,050	3,525	2,550	6,075
7	4,000	3,050	7,050	3,525	3,050	6,575
8	3,525	3,525	7,050	3,525	3,525	7,050

Source: Adaptation from Dräther/Rothgang 2004.

The non-contributory inclusion of children could also be regarded as a violation of horizontal justice. However, in this case other evaluation criteria may be applied. As children are the future contributors to the social system, they have a positive external effect on the insurance collective (Schmähl et al. 2005). The non-contributory inclusion of children in health insurance can thus be justified provided that future effects of raising children are to be considered.

As we have pointed out earlier, co-payments are generally regressive (van Doorslaer et al. 1999). The oppressive reliance on out-of-pocket payments in the SHI has negative effects on horizontal and vertical justice as well as on ex post redistribution. The increasing reliance on out-of-pocket payments is not further justifiable by a minimum amount of cost-sharing that could be beneficial in order to prevent from moral hazard. Since we know from the RAND project (Manning et al. 1987) that co-payments or deductibles may negatively affect the consumption of health care by the poor, we do not expect any beneficial steering effects.

Reduced co-payments for the chronically ill might be considered as unfair from the perspective of horizontal justice when considering only one period, e.g. one year. It is assumed, however, that the chronically ill might have high medical expenses every year and should be eased from this financial burden. The WHO concept, however, is lacking any periodical considerations.

4.2 Reform concept *Bürgerversicherung*

4.2.1 The concept

Bürgerversicherung is the cover-name for different reform elements that influence and alter some major attributes of the existing health care financing scheme without completely displacing it. Its two core elements are the inclusion of further parts of the popu-

lation into the SHI and the expansion of the assessment basis, which is relevant for the calculation of contribution.

The reform agenda plans to include public employees, self-employed, and employees with a monthly income above 3,900 €, who at present have a choice whether to join a public or a private scheme. Additionally, the abolition or modification of the non-contributory inclusion of spouses without income is proposed.

In order to enlarge the basis for assessment of contributions, the income threshold for the contribution ceiling (of 3,525 € per month) is to be abolished or at least increased. It is also planned to increase the individual basis for contribution by including other sources of income, e.g. savings and capital income as well as by expanding the earned income basis. There are various proposals for the *Bürgerversicherung*, all combining at least some of these core elements.

4.2.2 Evaluation

All elements of a *Bürgerversicherung* mentioned above have positive impacts on fair financing as stated within the normative framework. The inclusion of further parts of the population, who to date are included in the PHI, means switching from risk-related premiums, without any reference to income, to contributions which are not risk-related but dependent on income for this part of the population. This leads to more vertical justice in accordance with the normative claim.

Due to the exit option for high incomes, in the status quo, members of PHI are in general healthier and earn higher incomes.[15] As a result, the inclusion of current PHI members will most likely lead to a more equal distribution of income by directing income from the rich to the poor. At the same time, more redistribution is to be observed from the healthy to the sick. Risk-rating practises, as currently applied in the PHI, would be obsolete. One of the questions concerning the legal aspects of an imaginable abolition of the PHI is, whether current members of the PHI can be forced to join public insurance or whether their claim on protection of confidence could apply.

The inclusion of other sources of income that at present are excluded from obligation to contribute to social insurance, would lead to more horizontal justice. To date, when premiums are computed, the same overall income of two households with different income structure could lead to different contributions because earned income is relevant for the computation of premiums, while capital income and savings are not. The effective inclusion of further income sources, e.g. capital income, savings, income from rent and lease, depends heavily on the feasibility to assess those diverse streams of income.

[15] Members of the SHI with high individual risk structure confronted with an exit-option rather choose to remain within the SHI, while the good risks face a strong incentive to opt out.

Experiences made with income taxation on capital gains raises some doubts with this respect.

However, if contribution ceiling persists, the improvements made concerning horizontal equity by including additional income sources will aggravate unfair vertical treatment. The intended inclusion of further sources of income would not charge the individuals with an income above the contribution ceiling and would have a minor effect for those who are close to the margin. Thus, such a measure could have regressive effects.

A rise of the contribution ceiling would not be an entire solution, because the inequity will only be displaced, and not eliminated. As before, we would face a regressive system which would be even worsened by the inclusion of other income sources. A comprehensive solution of the regressiveness problem is solely achievable if the contribution ceiling is completely abolished. Levelling up the margin, as proposed frequently, has at least some positive effects on vertical equity, which of course could also be measured by the WHO fair financing index. Also the ”Two Pillar Model” of the SPD, with separate and different contribution ceilings, one for earned income and the other for capital income, leads to the persistence of horizontal inequity but might counter the induced regressive effects mentioned above.

If we consider the household as the relevant unit of investigation, there may result an unequal treatment of households with identical size and income (table 3). This unequal treatment also rises from the existence of a contribution ceiling. If the ceiling was abolished, the gain would be more horizontal equality among households.[16]

We have to make one concluding remark with respect to the different reform proposals of the *Bürgerversicherung*, as elaborated by the ”Kommission zur nachhaltigen Finanzierung der Sozialversicherungssysteme” by the Social Democratic Party or by the Green Party: All concepts contain compromises, especially when dealing with the contribution ceiling, and therefore are worse than theoretical feasibilities in realising more fairness in financing the German health care system.

4.3 Reform concept *Gesundheitsprämie*

4.3.1 The concept

The concept of the *Gesundheitsprämie* is also elaborated by various models. In a comprehensive and current overview (Rothgang et al. 2005b), 12 models are identified that emerged after 2000. As opposed to the *Bürgerversicherung*, a reform based on the proposals for the *Gesundheitsprämie* would alter the existing financing system more fundamentally. The characteristic features of a pre-payment system, however, will be pre-

[16] For details see Dräther/Rothgang 2004.

served. A general agreement within all models of the *Gesundheitsprämie* is also that premiums are not to be risk-rated. The redistribution from individuals with a favourable risk-structure to the less advantageous will be maintained. Also the redistribution from male to female members will be preserved.

The basic principle of all models is the disentanglement of income redistribution from health care financing. This is to be achieved by a uniform flat rate premium, which every mandatory member has to contribute.[17] In all models income re-distribution – whenever required – is to be achieved by an income transfer mechanism apart from health insurance. In almost all models the transfer will be made through the tax-system.[18] The models vary by the absolute amount of the flat rate premium and whether children should also make (either the same or reduced) payments. All models refuse consistently the continuation of the non-contributory inclusion of spouses.

A further common feature of all models is the proposition to separate health insurance premiums from labour costs. Thus, the share of a premium that in the status quo model is borne by the employer, is to be disbursed to the employee. In most proposals the disbursement takes the form of taxable income. It is to remark, however, that the employers-share is currently tax-free. Considering the disbursement as taxable income, the financial burden would increase for all insured.

Because a uniform flat rate payment would be highly regressive and would hit especially low income groups too hard, the establishment of an equalisation scheme is proposed. According to the reform agenda, all low income households will receive a means-tested subsidisation of their flat-rate premium. The subsidisation-rule prescribes, that no individual/household should pay more than a certain percentage of its income on the premium. The percentage given in the models follows more or less closely the current contribution rate of social health insurance of about 14%. In most models the transfer will be financed out of general taxation (indirect and direct taxes), which paradoxically implies that the beneficiaries will themselves contribute a certain amount to their subsidy.

In sum, we observe two impacts, which especially charge low income earners through rising taxes. One is the employers' share, which the employee receives as taxable income. The other is the financing of the subsidy by a proportional payment required from all tax-payers including the beneficiaries of the subsidy.

In order to start with the differences in the proposed models of the *Gesundheitsprämie*, we have displayed the major variations in distributional aspects in table 4. All pro-

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[17] As in the status quo, the flat rate may vary slightly between sickness funds, reflecting competitive forces at work. However, we will neglect those minor variations for our further considerations.

[18] In one model subsidies to poor households are to be financed by an additional flat rate premium.

posals containing components of risk-adjusted premiums that have also been made in this context are not part of the concept of the *Gesundheitsprämie*; these models would go much further with the objective to reduce distribution of income. However, we do quote Zweifel/Breuer and the FDP-model in table 4 in order to present even those alternatives that go beyond the mainstream flat rate models and eliminate all kinds of redistribution from health insurance.

Table 4: SHI 2005 and reform proposals: Distributional dimensions

	Income	***Children***	***Spouses***	***Risk***	***Age***	***Sex***
Status Quo	+	+	+	+	+	+
Rürup et al.	-	+	-	+	+	+
Knappe et al.	-	-	-	+	+	+
Zweifel/Breuer	-	-	-	-	-	-
Henke et al.	-	+	-	+	-	+
Herzog-Kommission	-	+	-	+	-	+
CDU	-	-	-	+	-	+
Rürup/Wille	-	-	-	+	+	+
BDA	-	+	-	+	+	+
FDP	-	-	-	-	-	-
Fritzsche	-	+	-	+	+	+
CDU/CSU	-	+	-	+	+	+
SVR	-	+	-	+	+	+

Source: Rothgang et al. 2005b: 47.

We will not further elaborate all features of the models. However, some major differences should be mentioned. The models differ concerning the question which part of the population should be included by the mandatory public scheme. Some authors' plea for a comprehensive scheme, including all members of the society (Bürgerprämie), others prefer to preserve the PHI scheme as it is. Another proposal is to complement the current "pay-as-you-go" financing mechanism by some elements of funding. In addition to the option to finance income transfers by the tax-system, some proponents have the idea to finance subsidisation by an additional flat-rate premium (see Fritsche 2004).

4.3.2 Evaluation

With respect to our normative framework, one positive feature of these models to note is that no risk-rating is intended in financing the *Gesundheitsprämie*. Some models, however, suggest maintaining the PHI scheme with its risk-adjusted premiums (Jacobs et al. 2003). Concerning horizontal justice the *Gesundheitsprämie* is even superior to the financing mechanism of the status quo. All households with equal income will have to pay the same premium – irrespective of the individual earnings or of the sources of income. This is an improvement compared to the status quo, because, as we have shown earlier, the current system leads to different contributions at the same overall income

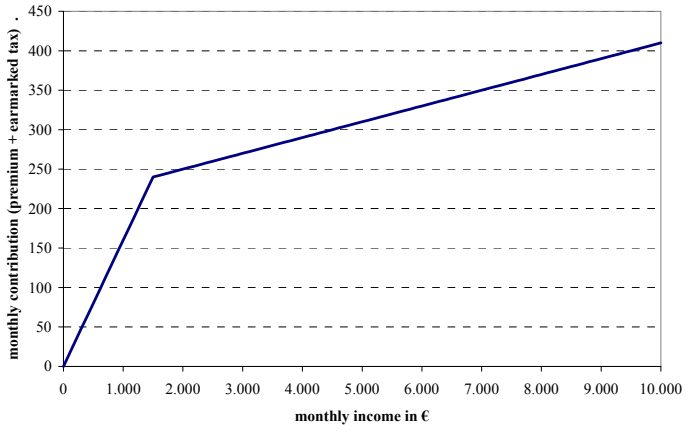
level. Furthermore, the abolition of the non-contributory co-insurance of spouses is an improvement as compared to the status quo.

From the perspective of vertical justice, it is to state that a pure flat rate premium is generally regressive and therefore it has to be refused. However, given that all models contain the element of premium subsidies for low income earners, a more sophisticated evaluation is needed. Due to the flat-rate payment in combination with the proposed equalisation mechanism, the premium tariff is more fragmented than it is within the status quo. In order to shed some light on the effect of the transfers on income and premium payment, we will give a – simplified – example.

Assume that the marginal value for the highest share of income, which has to be paid for insurance contribution, will be fixed at 14%.[19] As the margin is fixed, it is a common assumption to all models of the *Gesundheitsprämie* that the contribution rate remains proportional to income for all beneficiaries of the subsidisation. As described above, the transfer to the low income earners is partially financed by themselves. Additionally, taxes have to be paid on the amount, which is according to most models of the *Gesundheitsprämie* disbursed by the employer. Therefore the burden for the lower incomes would in sum increase due to an augmentation of their taxable income. This is not a marginal effect, as it would affect about 30-50% of all insured, depending on the concrete features of the particular model of the *Gesundheitsprämie*.

For the income earners above this level, the flat rate premium is lower than their current contribution. As the subsidisation has to be financed, however, this has to be done via the tax system, which does not have a ceiling for taxable income. Therefore, for individuals with very high income this effect might even outweigh their savings. As a result, for the very high incomes, above the current contribution ceiling, the model of a *Gesundheitsprämie* is becoming more expensive.

Figure 3: Gesundheitsprämie: Contribution payments



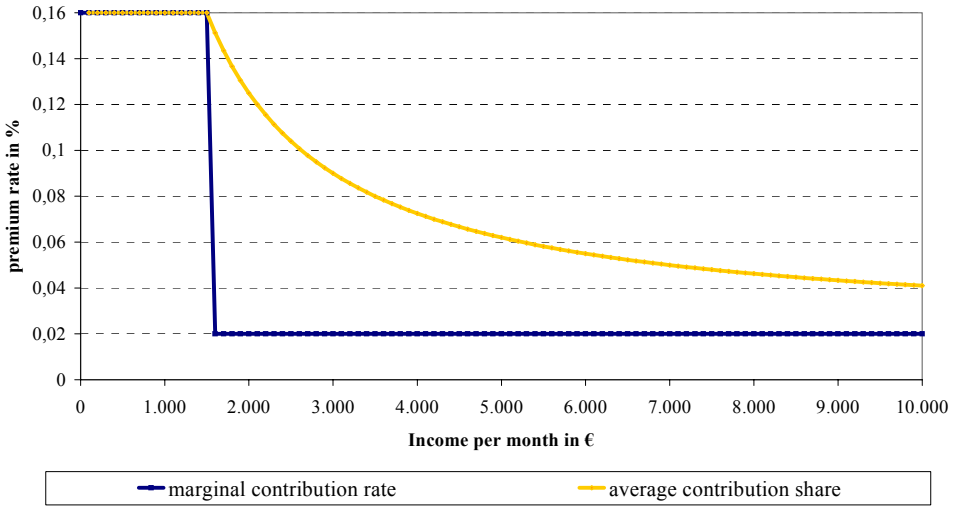
Source: own depiction

[19] 14% is about the average contribution share to the SHI to date.

Figures 3 and 4 show the resulting tariff for a – fictitious – model with a *Gesundheitsprämie* of 210 €, a tax-free disbursement of the employers' share of the current health care contribution[20] and a proportional tax of 2% for the financing of income transfers. Figure 3 shows a line with a break at an income of about 1,430 €. This is the threshold from which on the flat rate premium amount of 210 € is less than 14 % of income. Remarkably, the line keeps on increasing from this threshold on, indicating an increase in premium payments. In this respect the model differs from the tariff in the status quo model (as depicted in figure 1) which gave a horizontal line for premiums above the income ceiling.

Especially with regard to higher incomes, the tariff in a *Gesundheitsprämie* has changed towards more proportionality and thereby towards more vertical justice, as compared to the status quo. Nevertheless, as we can see from figure 4, the average contribution share still decreases with income, so we only have a partial improvement in proportionality while payments are still regressive in general.

Figure 4: Gesundheitsprämie: Marginal rate and contribution share



Source: own depiction

As already mentioned, it is not evident from the graph that lower incomes in sum are charged with higher premiums as compared to the status quo. This, however, is a major feature of the *Gesundheitsprämie*.

5. CONCLUSION

"Social justice" in general and "fair financing" of health care in particular are slippery concepts which are often used without a clear definition of the respective concept. In order to avoid this pitfall we have based our analysis on a modified version of the WHO

[20] Such tax-free disbursement is e.g. part of the model suggested by the "Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung" in their annual report 2002.

concept of fair financing which takes into account the criticism the WHO concept has raised. Generally speaking we regard health care financing as fair if

- there is little out-of-pocket payment
- premiums are not risk-related
- horizontal equity is given and
- premiums are at least proportional to disposable income, while a more progressive tariff is appreciated.

Compared to these standards the current health care financing system in Germany is not fair as it is highly regressive and has certain elements of horizontal inequity. Due to this background two reform options have been described and evaluated, the *Bürgerversicherung* and the *Gesundheitsprämie*.

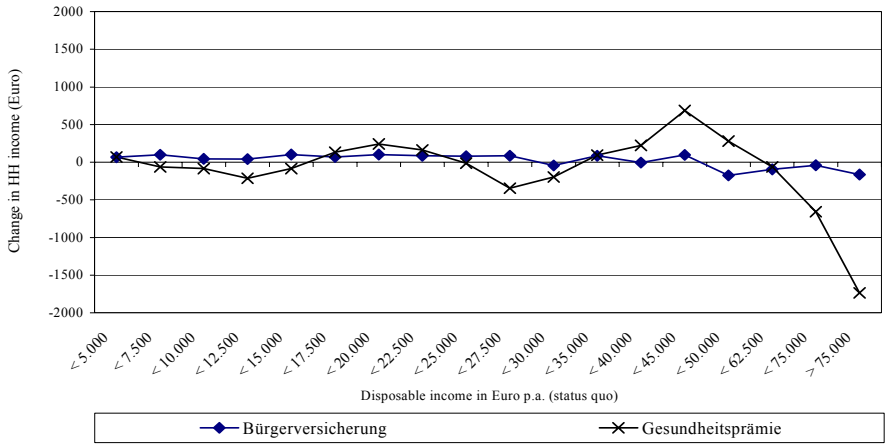
As we have shown, both reform options rely on pre-payment – as does the current system. Moreover, the *Bürgerversicherung* and the *Gesundheitsprämie* refuse risk-related premiums. Therefore both systems imply the (ex post) redistribution of income from the healthy to the sick and the (ex ante) redistribution from better to worse risks. The exit option for higher incomes and for civil servants would be omitted with the *Bürgerversicherung* and with some reform options of the *Gesundheitsprämie* thereby dropping risk-rating practises as currently applied in the PHI. In these cases even an improvement of fairness in financing is to be credited.

Also with respect to horizontal justice both reform options are more or less equivalent improvements compared to the status quo. Both concepts propose to cease the non-contributory membership of spouses without income. Households will be charged with premiums on a more equitable assessment basis in both cases; in one system through inclusion processes and by abolition of the contribution ceiling, in the other by a more indirect way of including all income sources. However, while the *Gesundheitsprämie* would more or less automatically include other sources of income, it is to doubt whether it is feasible to collect all revenues in order to enlarge assessment bases in the *Bürgerversicherung*.

The evaluation of the reforms with respect to vertical justice is more difficult. In both reform proposals we may assume a gain in vertical justice by the inclusion of the entire population into the same premium schedule, which is of course given only in some variants of the concept of the *Gesundheitsprämie*. In the case of the *Gesundheitsprämie* we also anticipate an oppressive negative impact on vertical justice due to the generally regressive effect of flat rate payments. On the other hand, all proposals for the *Gesundheitsprämie* suggest a subsidisation of low income earners by transfer payments. In its report on the distributional consequences of both reform proposals, Leinert et al. (2005) calculated the effects on household income on the basis of Socio Economic Panel

(SOEP) data[21]. Figure 5 shows the change in household incomes for both reform options.

Figure 5 Change in Household Income as compared to the Status Quo



Source: Leinert et al. (2005), conversion into Euro: own calculation. *Note:* Data on capital incomes, as relevant for the *Bürgerversicherung*, are collected per household. The model operates with a contribution ceiling as applied on 31.12.2000 (3,487.50 €). Household income data for the *Gesundheitsprämie* is measured after all transfer payments and reflects maximum premium charge.

We can make a clear statement for the *Bürgerversicherung* that lower incomes are released from the burden of financing while higher incomes are charged. In this calculation, the turning point is at an income threshold of about 47,500 € of annual income. A second source to which we refer (Bork 2003), estimates for this threshold an amount of 40-50,000 €. This result is in line with Leinert's work.

We see from figure 5 that especially households with lower incomes, up to about 17,500 €, are oppressively charged with the burden of financing in the concept of the *Gesundheitsprämie*. As we have absolute numbers on both axes, it is obvious that this effect is highly regressive. The effect on households of middle range income is mixed; some of the households are released while some of them are charged. All households with an income between 35,000 and 62,500 €, however, are definitely released. The financial burden is increasing for incomes over 62,500 €. We extract comparable data with slightly different thresholds from Bork (2003). However, the compounded effect is difficult to judge without more detailed data.

As a result we can conclude that the *Bürgerversicherung* releases households with low income and charges the wealthy. This clearly leads to a more progressive health care financing and thus – within our normative framework – to an improvement as compared to the status quo. The effects of the *Gesundheitsprämie* are more ambiguous

[21] Survey data basis is from 2001 and covers 12,000 households with 22,300 interview partners and 6,000 children.

since both, low and high income groups, are burdened, causing a release for the income groups in between. If we apply the normative claim of the WHO that no household should impoverish due to an excessive burden of financing health care, an indicator is given for a bias of the *Gesundheitsprämie* towards inferiority. But the overall effect on the income distribution measured by Gini-coefficient or Kakwani-Index is unclear and depends on the numerical specification of the reform model. It is also to keep in mind that the transfer mechanism that provides a compensation for the financial burden may be weak in the model of the *Gesundheitsprämie*. This is a crucial fact also for the assumption of stability of the numerical examples. It is to fear that some built-in dynamics in the model of the *Gesundheitsprämie* could lead to adjustments of contributions to rising health care cost with no guarantee of respective adjustment for the subsidisation.

In terms of the legitimacy of the German public health insurance scheme, it is to bear in mind that –although some cut-backs were made in the recent past – the general principle of solidarity has survived the reforms and is still reflected in the status quo (Maarse/Paulus 2003). As the application of the normative framework derived from the WHO concept shows, the *Bürgerversicherung* would definitely enforce the underlying value of solidarity. All reform options subsumed under the name of the *Gesundheitsprämie*, however, reject the redistribution of income as a constitutive element (see table 4). Thus, the fact that employers are released from mandatory financing of health care contributions in combination with an assumedly weak transfer mechanism indicates a turning away from the solidarity principle and, hence, a change in the role of the state in defining the mechanism and the degree of redistribution.

6. REFERENCES

Almeida, Celia/ Braveman, Paula/ Gold, Marthe R./ Szwarcwald, Celia L./ Ribeiro, Jose M./ Miglionico, Americo/ Millar, John S./ Porto, Silvia/ do Rosario Costa, Nilson/ Rubio, Vincente O./ Segall, Malcolm/ Starfield, Barbara/ Travessos, Claudia/ Uga, Alicia/ Valente, Joaquim and Viacava, Francisco (2001): Methodological concerns and recommendations on policy consequences of the World Health Report 2000, in: The Lancet, Vol. 357, No. 9269, May 26, 1962-1697.

Arrow, Kenneth J. (1963): Uncertainty and the welfare economics of medical care, in: American Economic Review, Vol. 53, 941-973.

Barr, Nicholas (1992): Economic Theory and the Welfare State: A Survey and Interpretation, in: Journal of Economic Literature, Vol. 30, No. 2, 741-803.

Bork, Christhart (2003): Quantifizierung der Aufkommens- und Verteilungswirkungen ausgewählter Reformansätze im Gesundheitswesen. Gutachten für die Kommission Wiesbaden.

Busse, Reinhard and Riesberg, Annette (2004): Health Care System in Transition: Germany. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies, 2004.

Cavelaars, Adrienne J. M./ Kunst, Aanton E. and Geurts, Jose J. M. (1998): Differences in self reported morbidity by education level: A comparison of 11 Western European Countries, in: Journal of Epidemiology and Community Health, Vol. 52, No. 2, 219-227.

Cockerham, William (1992): Medical Sociology. Englewood Cliffs: NJ Prentice Hall.

Cooper, Barbara and Sosna, Ute (1978): Der Einfluß der sozialen Lage auf Nerven- und Geisteskrankheiten, in: Mensch, Medizin, Gesellschaft, Vol. 1, No. 2, 128-135.

Daly, Mary/ Duncan, Gregor/ Kaplan, Gregor and Lynch, John (1998): Macro-to-micro links in the relationship between income inequality and mortality, in: Milbank Quarterly, Vol. 76, No. 3, 315-339.

De Graeve, Diana and Van Ourti, Tom (2003): The Distributional Impact of Health Financing in Europe: A Review, in: Blackwell Publishing Ltd, http://www.ufsia.ac.be/CSB/j.1467-9701.2003.00582.x_1.pdf

Dräther, Hendrik and Rothgang, Heinz (2004): Die Familienmitversicherung für Ehepartner in der Gesetzlichen Krankenversicherung. Problemanalyse und Lösungsvorschläge. Bremen: Zentrum für Sozialpolitik: Universität Bremen.

Dreyer, Frances/ Whitehead, Margaret (1997): Health Inequalities: Decennial Supplement. London: Office for National Statistics.

Erhard, Ludwig and Müller-Armack, Alfred (1972): Soziale Marktwirtschaft: Ordnung der Zukunft. Frankfurt a.M.: Ullstein.

Fritsche, Bernd (2004): Verteilungspolitische Aspekte einer Umstellung der Beiträge zur Gesetzlichen Krankenversicherung auf Pauschalprämien in Verbindung mit Ausgleichszahlungen. RWI-Mitteilungen 54/55 (1): 51-58.

Gakidou, Emmanuela/ Murray, Christopher and Frenk, Julio (2000): Measuring preferences on Health System Performance Assessment. GPE Discussion Paper Series: No. 20.

Gerdtham, Ulf G. and Johannesson, Magnus (2000): Income-related inequality in life-years and quality-adjusted life-years, in: Journal of Health Economics, Vol. 19, No. 6, 1007-1026.

Hallqvist, Johan/ Lundberg, Michael/ Diderichsen, Finn and Ahlboom, Anders (1998): Socioeconomic differences in risk of myocardial infarction 1971-1994 in Sweden: Time trends, relative risk and population attributable risks, in: International Journal of Epidemiology, Vol. 27, No. 3, 410-415.

Inglehart, John K. (1999): The American Health Care System. Expenditures, in: The New England Journal of Medicine, Vol. 340, No. 1, 70-76.

Jacobs, Klaus/ Langer, Bernhard/ Pfaff, Anita B. and Pfaff, Martin (2003): Bürgerversicherung versus Kopfpauschale – Alternative Finanzierungsgrundlagen für die Gesetzliche Krankenversicherung. Bonn: Friedrich-Ebert-Stiftung.

Kakwani, Nanak C. (1977): Measurement of Tax Progressivity: An International Comparison, in: The Economic Journal, Vol. 87, No. 345, 71-80.

Klavus, Jan (2000): The measure of fair financing in the World Health Report 2000, in: Häkkinen, Unto/ Ollila, Eeva (eds.): The World Health Report 2000. What does it tell us about Health Systems? Helsinki: National Research and Development Centre for Welfare and Health, 21-25.

Kühn, Hagen (1993): Healthismus. Eine Analyse der Präventionspolitik und Gesundheitsförderung in den USA. Berlin: Sigma.

Leinert Johannes/ Grabka, Markus M. and Wagner, Gert G. (2005): Bürgerprämien für die Krankenversicherungen als Alternative zu den Reformvorschlägen Kopfpauschale und Bürgerversicherung, in Greß, Stefan/ Pfaff, Anita B and Wagner, Gert G. (eds.): Zwischen Kopfpauschale und Bürgerprämie – Expertisen zur Finanzierungsreform der Gesetzlichen Krankenversicherung. Edition Boeckler, i.E.

Maarse, Hans and Paulus, Aggie (2003): Has Solidarity Survived? A Comparative Analysis of the Effect of Social Health Insurance Reform in Four European Countries. Journal of Health Politics, Policy and Law, Vol. 28, No. 4, August 2003, 585-614.

Mackenbach, Johan P./ Kunst, Anton E./ Cavalaars, Adrienne E.J.M./ Groenhof, Feikje and Geurts, Jose J.M. (1997): Socioeconomic inequalities in morbidity and mortality in Western Europe, in: The Lancet, Vol. 349, No. 9066, 7 June, 1655-1659.

Manning, Willard G./ Newhouse, Joseph P./ Duan, Naihua / Keeler, Emmett B./ Leibowitz, Arleen and Marquis, M.Susan (1987): Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment, in: The American Economic Review, Vol. 77, No. 3, 251-277.

Murray, Christopher and Frenk, Julio (2000): A Framework for Assessing the Performance of Health Systems, in: Bulletin of the World Health Organization, Vol. 78, No. 6, 717-731.

Murray, Christopher/ Knaul, Felicia/ Musgrove, Philip/ Xu, Ke and Kawabata, Kei (2000): Defining and measuring fairness in financial contribution to the Health System. GPE Discussion Paper Series: No. 24.

Musgrove, Philip (2003): Judging health system: reflections on WHO's methods, in: The Lancet, Vol. 361, No. May 24, 1817-1820.

Nachhaltigkeitskommission /Kommission für die Nachhaltigkeit in der Finanzierung der sozialen Sicherungssysteme (2003): Bericht der Kommission. Berlin: Bundesministerium für Gesundheit und soziale Sicherung.

Nullmeier, Frank and Voruba, Georg (1995): Gerechtigkeit im sozialpolitischen Diskurs, in: Döring, D. (ed.): Gerechtigkeit im Wohlfahrtsstaat. Marburg: Schüren, 1995.

Pappas, Gregory/ Queen, Susan/ Hadden, Wilbur and Fisher, Gail (1993): The increased disparity in mortality between socioeconomic groups in the United States, 1960 and 1986, in: New England Journal of Medicine, Vol. 329, No. 2, 103-109.

Pekkanen, Juha/ Tuomilehto, Jaakko/ Uutela, Antti/ Vartiainen, Erkki and Nissinen, Aulikki (1995): Social class, health behavior, and mortality among men and women in Eastern Finland, in: British Medical Journal, Vol. 311, No. 7005, 589-593.

Pfaff, Anita B./ Langer, Bernhard / Mamberer, F./ Freund, F./ Kern, A.O. and Pfaff, Martin (2003): Zuzahlungen nach dem GKV Modernisierungsgesetz (GMG) unter Berücksichtigung von Härtefallregelungen. Volkswirtschaftliche Diskussionsreihe der Universität Augsburg. Augsburg.

Pfaff, Anita B./ Langer Bernhard and Freund, Florian (2005): Kopfpauschalen als Finanzierungsoption der Gesetzlichen Krankenversicherung – Quantitative Auswirkungen und gesundheitspolitische Implikationen, in: Greß, Stefan/ Pfaff, Anita B. and Wagner, Gert G. (eds.): Zwischen Kopfpauschale und Bürgerprämie – Expertisen zur Finanzierungsreform der Gesetzlichen Krankenversicherung. Düsseldorf: Edition Böckler.

Phillimore, Peter/ Alastair, Beattie and Townsend, Peter (1994): Widening inequality of health in northern England 1981-1991, in: British Medical Journal, Vol. 308, No. 612, 1125-1128.

Rothgang, Heinz/ Glaeske, Gerd/ Höppner, Karin/ Borchert, Lars and Becker, Roland (2005a): Differenzierung privater Krankenversicherungstarife nach Geschlecht: Bestandsaufnahme, Probleme, Optionen. Gutachten für das Bundesministerium für Familie, Senioren, Frauen und Jugend.

Rothgang, Heinz/ Wasem, Jürgen and Greß, Stefan (2005b): Kopfprämienmodell in der GKV: Lohnt sich ein Systemwechsel? Diskussionsbeitrag aus dem Fachbereich Wirtschaftswissenschaften Nr. 140. Essen: Universität Duisburg-Essen.

Schmähl, Winfried/ Rothgang, Heinz and Viebrok, Holger (2005): Berücksichtigung von Familienleistungen in der Alterssicherung. Analyse und Folgerungen aus ökonomischer Sicht. DRV-Schriften. Frankfurt: Verband Deutscher Rentenversicherungsträger, i.E.

Sehlen, Stephanie/ Schräder, Wilhelm F. and Schiffhorst, Guido (2004): Bürgerversicherung Gesundheit – Grünes Modell – Simulationsrechnungen zu Ausgestaltungsmöglichkeiten. Berlin: Institut für Gesundheits- und Sozialforschung.

Shaw, Mary/ Dorling, Daniel/ Gordon, David and Davey-Smith, George (1999): The Widening Gap. Health Inequalities and Policy in Britain. London: Policy Press.

Shaw, Paul R. (2002): World Health Report 2000 “Financial Fairness Indicator”: Useful compass or crystal ball?, in: International Journal of Health Services, Vol. 32, No. 1, 195-203.

Siegrist, Johannes (1995): Medizinische Soziologie. München: Urban und Schwarzenberg.

SPD Projektgruppe Bürgerversicherung (2004): Modell einer solidarischen Bürgerversicherung. Berlin.

Tandon, Ajay/ Murray, Christopher/ Lauer, Jeremy and Evans, David B. (2000): Measuring overall health system performance for 191 OECD countries. Geneva, World Health Organization, 2000 (GPE Discussion Paper No. 30).

Townsend, Peter/ Davidson, Nick and Whitehead, Margaret (1988): Inequalities in Health. London: Penguin Books.

Valkonen, Tapi (1998): Die Vergrößerung der sozioökonomischen Unterschiede in der Erwachsenenmortalität durch Status und deren Ursachen, in: Zeitschrift für Bevölkerungswirtschaft, Vol. 23, No. 3, 263-292.

van Doorslaer, Eddy and Wagstaff, Adam (1998): Equity in the Finance and Delivery of Health Care: An Introduction to the ECquity Project, in: Barer, Morris L./ Getzen, Thomas E. and Stoddart, Greg L. (eds.): Health, Health Care, and Economics: Perspectives on Distribution. Chichester: John Wiley & Sons.

van Doorslaer, Eddy/ Wagstaff, Adam/ van der Burg, Hattem/ Christiansen, Terkel/ Citoni, Guido/ Di Biase, Rita/ Gerdtham, Ulf-G./ Gerfin, Mike/ Gross, Lorna and Hakinnen, Unto (1999): The redistributive effect of health care finance in twelve OECD countries, in: Journal of Health Economics, Vol., No. 18, 291-313.

Wagner, Gert G./ Leinert, Johannes and Grabka, Markus (2004): Bürgerprämien für die Krankenversicherung als Alternative zu den Reformvorschlägen Kopfpauschale und Bürgerversicherung. Gutachten für die Hans-Böckler-Stiftung Berlin/ Düsseldorf.

Wagstaff, Adam (2001): Measuring Equity in Health Care Financing, Reflections on and Alternatives to WHO's Fairness of Financial Contribution Index, in: Policy Research Working Paper No. 2550.

Wagstaff, Adam (2002): Reflections on and alternatives to WHO's fairness of financial contribution index, in: Health Economics, Vol. 11, No. 2, 103-115.

Wendt, Claus/ Rothgang, Heinz and Helmert, Uwe (2005): The self-regulated German health care system between growing competition and state hierarchy. TranState Working Paper No. 9. Bremen.

WHO (2000): The World Health Report 2000, Health Systems: Improving Performance. Full Report WHO.

Williams, Alan (2001): Science or Marketing at WHO? A commentary on 'World Health 2000', in: Health Economics, Vol. 10, No. 2, 93-100.

Xu, Ke, Lydon, P./ Ortiz de Iturbide, J./ Musgrove, P./ Knaul, F./ Kawabata, K./ Florez, CE/ John, J./ Wibulpolprasert, S./ Waters, H. and Tansel, A. (2000a): Analysis of the fairness of financial contribution on 21 countries. Geneva, World Health Organization, 2000 (GPE Discussion Paper No. 25, unpublished).

Xu, Ke, Murray, C./ Lydon, P. and Ortiz de Iturbide, J.(2000b): Estimates of the fairness of financial contribution for 191 countries. Geneva, World Health Organization, 2000 (GPE Discussion Paper No. 26, unpublished).

Xu, Ke/ Evans, David B./ Kawabata, Kei/ Zeramdini, Riadh/ Klavus, Jan and Murray, Christopher (2003): Household catastrophic health expenditure: a multicountry analysis, in: The Lancet, Vol. 362, No. 9378, 12 June 2003, 111-117.

7. BIOGRAPHICAL NOTE

Heinz Rothgang

Telephone: + 49 421 218 4132
Fax: +49 421 218- 7540
E-Mail: heinz.rothgang@sfb597.uni-bremen.de
Address: Collaborative Research Center “Transformations of the State”, Linzer Str. 9a, 28359 Bremen, Germany

Mirella Cacace

Telephone: +49 421 218 8731
Fax: +49 421 218-8721
E-Mail: mirella.cacace@sfb597.uni-bremen.de
Address: Collaborative Research Center “Transformations of the State”, Linzer Str. 9a, 28359 Bremen, Germany

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