# Price competition among Dutch sickness funds

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**Abstract**

In general, competition enhances efficiency. On the market for health insurance free market competition, however, has unwanted side-effects. The existence of asymmetrical information can lead to adverse selection and cream skimming. Adequate risk-adjustment removes the incentives for cream skimming and balances the negative consequences of adverse selection. In an attempt to enhance efficiency, the Dutch government in 1992 introduced price competition between social health insurers in combination with risk-adjusted capitation payments. Our estimation results indicate that this has not resulted in altering market shares. Relatively cheap insurers did not enlarge their market share at the expense of their relatively expensive competitors.

The introduction of competition among social health insurers has not been the success the Dutch government hoped for. Experiences  in Belgium and Germany show that the Dutch difficulties are not exceptional. When equity considerations are high valued features of a health insurance system, it is difficult to introduce competition. To enhance efficiency, we recommend that the current capitation formula should be refined and that the insurers should be given more room for selective contracting of health care providers.

## 1. Introduction

Efficiency is an important issue in health policy. Almost every country faces the problem of how to provide a high quality of health care at an affordable cost. This paper focuses on the introduction of price competition among Dutch social health insurers.

The market for health insurance is no ordinary market. Free market competition is a mixed blessing because the existence of asymmetrical information can lead to adverse selection and cream skimming. Because health policy in the Netherlands is dominated by equity considerations, the introduction of competition has been accompanied by the introduction of risk-adjusted capitation payments. For the moment, Dutch policy measures have not evolved as the government expected. In order to see whether other countries are more successful, experiences with similar policy measures in Belgium and Germany are discussed in this paper. In Belgium and Germany, social health insurers also face incentives to operate more efficiently, while access to health insurance is preserved by means of risk-adjustment. As we will see later on, these countries are encountering similar difficulties to those in the Netherlands.

The outline of the paper is as follows. Section 2 provides a brief summary of the most important theoretical considerations regarding competition among health insurers. In section 3 an overview of the Dutch health insurance system is presented. Section 4 illustrates the central role the so-called sickness funds play in the Netherlands. The introduction of price competition in social health insurance is discussed in section 5. In section 6 an empirical analysis is presented. The situation in Belgium and Germany is examined in section 7. At the end of the paper the main findings are summarized.

## 2. Theoretical considerations

Until recently, competition in health care was not a commonly promoted policy in most countries. This changed when it became clear that central planning was not an optimal solution either.

What are the advantages of competition? Generally speaking, in the absence of competition firms can take full advantage of their market power. Freedom of choice between competing firms allows customers to shop around and search for the best buy. While doing so, efficiency is promoted, product characteristics shift and new products are introduced to meet changing consumer demands. Yet, the market for health insurance is no ordinary market as the identity of the buyer (high versus low risk) can dramatically affect costs (Cutler & Zeckhauser, 1999). This can lead to adverse selection and cream skimming.

*Adverse selection*

At premium rates reflecting average risks, insurance is an attractive offer only to those with higher risks. Only a few people with lower than average risks will take out the insurance policy. For them, the required rate is simply unattractive. In insurance economics, this phenomenon is called adverse selection (see for example Douma & Schreuder, 1991). The expected outcome of this scenario is that insurers will end up with a set of clients in which the higher risks are over-represented. Therefore, insurers will be forced to raise their premium rates. At these higher rates, insurance now becomes unattractive even to those with average risks. Eventually, adverse selection could become a self-reinforcing mechanism which would make it impossible to offer health insurance on the market. But even when health insurance markets do evolve in the presence of adverse selection, economic inefficiencies can result (Folland et al., 1997). If the low-risk enrollees are grouped with the high-risk enrollees and everyone is charged the same premium, the lower risks tend to get underinsured and the higher risks tend to get overinsured. This can be prevented when premiums for insurance policies are based on the specific risk characteristics of each individual. However, it is widely believed to be unfair when people with certain unfavorable risk characteristics which they cannot influence are charged more. Therefore, risk sharing by means of compulsory insurance and uniform premiums are used as an instrument to eliminate the problems of adverse selection. By doing this, one must pay attention to the problem of moral hazard. This refers to actions which parties in a transaction may take after they have agreed to execute the transaction (Douma & Schreuder, 1991). If these actions are unobservable to the other party in the transaction, and if they may harm this other party's interest, then these hidden actions may prevent the successful complementation of the transaction. In the case of health insurance, moral hazard refers to a situation in which the insured may start to behave with less caution, because he or she is insured.

*Cream skimming*

On the supply side of the market, insurers want to select so-called preferred risks. In economic literature, this is called cream skimming. When everyone is charged the same premium and insurers are able to identify several subgroups with different expected health care costs, it is profitable for insurers to distort their offerings. In such a situation, health insurers face incentives to identify and attract the lower risk people and deter the higher risk people from enrolling. The adverse effects of cream skimming are threefold (Van de Ven & Van Vliet, 1992). First, for higher risk people the access to health care is hindered. Second, it is possible that efficient insurers might be driven out of the market by inefficient insurers who are successful in cream skimming. Third, the costs of cream skimming can result in social welfare losses. In addition to these three effects, Cutler and Zeckhauser (1999) mention that even the quality of health care can be influenced by cream skimming. Improvements in the quality of health care are unattractive to insurers when they are expected to attract higher risk people.

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*Risk-adjusted capitation payments to health insurers*
Competition among health insurers can cause serious problems. Accessibility can decline as a result of adverse selection and cream skimming. High-risk groups may only be able to insure themselves at very high premium rates. In some cases premiums can even be unaffordable so that people will be uninsured. The main question about health insurance design is how to achieve the benefits of competition while containing the cost of adverse selection and cream skimming (Cutler & Zeckhauser, 1999).

Risk-adjustment between health insurers provides a solution for this problem. Adequate risk-adjustment removes the incentives for cream skimming and balances the negative consequences of adverse selection. The most common possibility for the government would be to impose risk-adjusted capitation payments to health insurers (see Table 1). These payments should account for systematic variations in health care costs between different risk groups. By guaranteeing a fair distribution of funds, risk selection can be prevented. Risk-adjustment should lead to a situation in which the costs to insurers of selecting and attracting favorable risk groups outweigh the potential benefits (Schut, 1995).

**Table 1: How does risk-adjustment work?**

|          | Systematic variation in health care costs | Uniform and fixed premium (= equity) | Risk-adjustment payment | Potential benefit of risk selection |
|----------|-------------------------------------------|--------------------------------------|-------------------------|-------------------------------------|
| Low risk  | $X$       | $X + \frac{1}{2}C$ | $-\frac{1}{2}C$ | 0 |
| High risk | $X + C$   | $X + \frac{1}{2}C$ | $+\frac{1}{2}C$ | 0 |
| Total     | $2X + C$  | $2X + C$           | 0              | 0 |

Determination of an adequate health care budget for each insurer is nevertheless a major problem. In other words, what risk factors should be included in the capitation payment formula? Common factors such as age, sex and urbanization explain only a minor fraction of annual health care cost variability (Van de Ven & Van Vliet, 1992). More information on possible risk factors has to be collected because ''…without an adequate risk-adjusted capitation system there will be no effective pressure from demand, in which case workable competition in health care will turn out to be an illusion'' (Schut, 1995, p. 80). Until an adequate capitation method is developed, it is possible to avoid some undesired side effects of competition by enforcing insurers to accept all applicants. This itself, however, does not remove the incentives for cream skimming. Health insurers will still be looking for alternative ways to attract the better risks. For example, health insurers can attract better risks through their marketing and promotion activities or through selective contracting of health providers according to their locations and reputations in particular specialties

Even if adverse selection and cream skimming can successfully be avoided through risk-adjustment and competition among health insurers can be introduced, this will not automatically lead to efficiency gains. Creating the correct financial incentives alone is not sufficient. Because health insurers provide service benefits, they have to arrange contracts with health providers (see Figure 1). Therefore it is important for health insurers to be able to contract health providers selectively. Only then they can enhance efficiency. When the provision of health care is strongly regulated – for example by means of fixed fees and centrally planned capacity – health insurers will not be able to influence their health care expenditures sufficiently and improve their efficiency, even if they face strong financial incentives to do so.

**Figure 1: The central role of health insurers**

| Patient | ←→ | Health insurer | ←→ | Health providers |
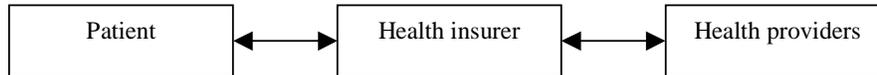
### 3. The Dutch health insurance system[2]

The Dutch health insurance system consists of three parts (see for example Ministry of Health, Welfare and Sports, 2000a). The first part covers serious long-term sicknesses or disorders that cannot easily be covered by private health insurance. This includes specialized facilities for the mentally and physically disabled, psychiatric care and home care. Insurance for this kind of risks is statutory and provided by the so-called Exceptional Medical Expenses Act (AWBZ). Everyone is legally obliged to contribute to the AWBZ. These income-related contributions are part of the income tax system. The central government takes primary responsibility for this part of the insurance system, using budgetary controls, as well as strict planning of health care providers and regulation of premiums, co-payment schedules and coverage.

The second part consists of two public schemes and a large number of private schemes covering basic medical services, including hospital care, pharmaceuticals and care provided by general practitioners and dentists. The first public scheme is the Health Insurance Act (ZFW). Insurance under this act is statutory for everyone who meets the criteria spelled out in the legislation. It is this part of the Dutch health insurance system on which we focus this paper. The other public scheme in the second part is called the Medical Insurance Access Act (WTZ). In 1986 the government decided to abolish the voluntary and elderly people's ZFW insurance schemes. As a result of this, several categories of people who had previously been covered by these forms of insurance had to buy private health care insurance. In order to guarantee access to this type of

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2 See for an extensive – though on some points a bit outdated – description of the total Dutch health care system Schrijvers (ed. 1997).

insurance, the private health care insurers were obliged to incorporate a certain insurance (the WTZ standard insurance) in their portfolios. There are a number of statutory rules that apply to this insurance in relation to acceptance of insured people, the magnitude of the risk to be insured and the contribution to be charged for it. Those who do not meet the criteria for joining ZFW insurance or the WTZ scheme can seek insurance on the private market. In the private market, premiums, co-payment schedules and coverage are not regulated by the government.

Additional medical services – not covered by ZFW insurance and basic private insurance – can be insured privately. In this third part of the health insurance system premiums and co-payments rates are not regulated and are therefore allowed to differ across insurers and risk classes.

**Figure 2: Type of health insurance in the Netherlands (1999, % population)**
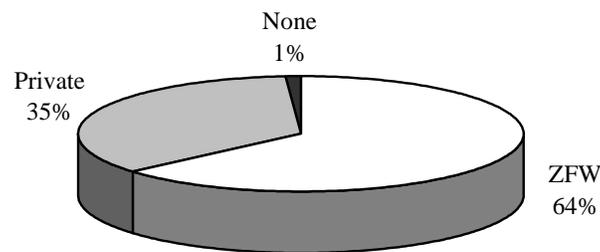


Source: CBS (2000).

Traditionally, health policy in the Netherlands is dominated by equity concerns. This is reflected in the health insurance system. First, the Dutch government uses the health insurance system to redistribute income (Westerhout, 1999). For example, the two largest public insurance schemes (AWBZ and ZFW) are almost entirely financed by income-related premiums and taxes. Second, social health insurance premiums are not allowed to differ between risk classes. Only within the private market do premiums depend on risk factors. But in the private market for health insurance, the government has introduced separate schemes with mandatory cross-subsidization in order to safeguard access for certain high-risk groups of insured who do not meet the criteria for social insurance. Therefore, every Dutch citizen is able to buy health insurance. The result is that – although insurance is not mandatory for more than one-third of the

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population – approximately only one percent of the Dutch population is uninsured (see Figure 2).

## 4.  ZFW insurance

In this paper we focus on the market for ZFW insurance. More than 60 percent of the Dutch population is subject to this compulsory type of health insurance. ZFW insurance is administered by independent private non-profit organizations called sickness funds ('ziekenfondsen'). As a consequence, these insurers play an important role in financing Dutch health care expenditure (see Figure 3).

**Figure 3: Financing Dutch health care expenditure (2001, % total)**

Other
6%

Government
5%

Private insurance
14%

AWBZ
39%

ZFW insurance
36%
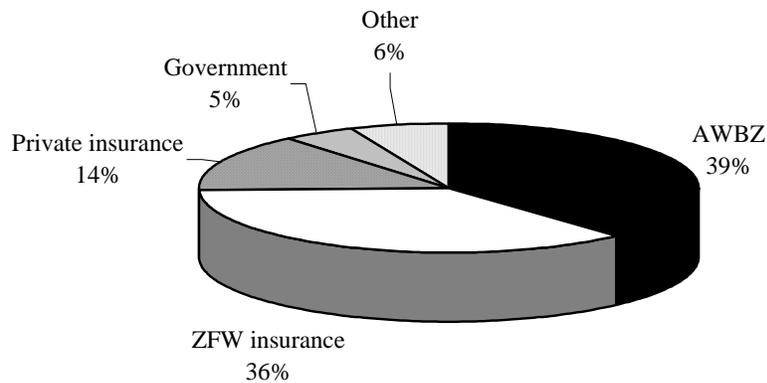
Source: Ministry of Health, Welfare and Sports (2000b).

*Premiums*
The ZFW insured pay an income-related contribution (basic premium) and a flat rate fee (supplementary premium). The basic premium rate is uniform and fixed by the government. Basic premiums are collected by a central fund which gives the individual funds a yearly budget. The total budget of this central fund for the year 2001 is made up of basic premium revenues (72 percent), government contributions (24 percent) and payments from private insurers (3 percent). Since most elderly are ZFW insured (leading to relative high health care expenditures when compared to private health insurers), these latter payments compensate the sickness funds for this.[3]

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[3]  Based on the so-called Joint Funding of Older People Insured by the Health Insurance Funds Act (MOOZ).

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In contrast to the basic premium, supplementary (non-income related) premiums are set by the individual funds as a fixed amount of money per person. This flat rate fee is based on the number of adults covered, but is not allowed to differ between income and risk classes. All enrollees pay this supplementary premium directly to their own insurer. Because supplementary premiums are allowed to differ between the sickness funds, price competition can arise (this will be discussed in section 5). For the moment substantial co-payments do not exist in ZFW insurance. Because health providers receive their fees by means of third party payments, there is no direct financial relationship between people with ZFW insurance and their health care providers. Figure 4 presents an overview of this financial system.

**Figure 4: Sickness funds and ZFW insurance**
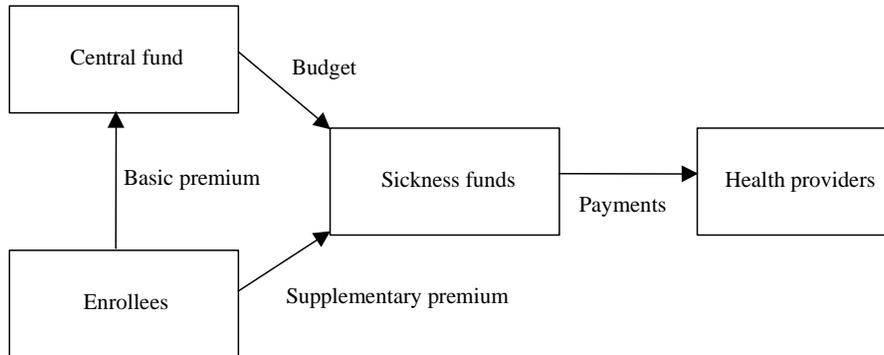


*Benefit package*
Just like the basic premium, the benefit package is set by the government and is not allowed to differ between individual sickness funds. As mentioned earlier, ZFW insurance generally covers routine non-catastrophic care. The exact composition of the benefit package differs from year to year. Continuing political discussions between those who favor a broad package and those who want to restrict the coverage are the main reason for these fluctuations. Cost containment and equity issues also play an important role.

*Call for change*
For several reasons, there is discussion in the Netherlands about modernization of ZFW insurance. First, policymakers want to improve efficiency in order to decrease the costs of this public insurance scheme, especially because in the future the aging of the Dutch population is expected to result in additional increases of public medical expenditure. A second reason is that patients increasingly desire medical care that is designed to meet their individual needs and demands. In other words, they claim more freedom of choice than a central planned system can offer. This call for change has resulted in the

introduction of competition among sickness funds along with the introduction of a risk-adjusted capitation system.

## 5. Competing sickness funds

In 1992, legal barriers preventing competition among Dutch sickness funds were dismantled. First, the legally protected regional boundaries of the funds were eliminated. Prior to 1992, people eligible for ZFW insurance could not choose between sickness funds. In most cases they were automatically assigned to the regional fund. Each fund was obliged to operate within its legally defined territory. This implied that they were only able to contract health care providers established in their assigned region. Now all funds can operate nationwide and ZFW insured are free to choose any fund they want. Second, room for price competition among the sickness funds was created. Funds must now charge a flat rate premium which they can use as a competitive instrument. Third, entrance to the market for ZFW insurance is allowed. Private health insurers are permitted to establish sickness funds as separate legal entities. A separated legal entity is required because sickness funds and private insurers operate on separate markets. For people with private health insurance it is prohibited to buy insurance from a sickness fund.

Freedom of choice allows people with ZFW insurance to choose the fund that is best for them. They can switch from one fund to another once a year. To avoid the unwanted side-effects of competition among sickness funds, the funds must accept all people who are eligible for ZFW insurance. *Ex post*, choice is balanced by risk-adjustment provisions.

*Risk-adjustment provisions*
As mentioned before, income-related premiums are collected by a central fund that allocates a budget to each individual fund. Prior to 1991, sickness funds were *ex post* fully reimbursed for their total health care expenditure. Sickness funds now receive a yearly budget that should cover their expenses, although not completely. Any shortfalls must be covered by the supplementary premium that they bill and receive directly from their members. The introduction of competition and prospective budgeting made it necessary to apply risk-adjusted capitation payments. When budgets are based on adequate risk characteristics, the incentives for cream skimming are removed. In practice however, some imperfections in the budget formula will always exist.

Annually, the Ministry of Health, Welfare and Sports determines the maximum allowed total ZFW-expenditure. After this, the Ministry determines the required level of the supplementary premium that the funds at least must charge to balance their budget. By subtracting the expected revenue of this required supplementary premium from the maximum allowed total ZFW expenditure, the government knows the national budget that it has to allocate to the different sickness funds. The income-related premium is

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then set at such a level that the revenues cover this budget. For the level of the income-related premium the Ministry is advised by the Health Care Insurance Board (CVZ).

The total budget sickness funds receive, consists of four different parts (Staatscourant 1999).[4] The funds receive a budget for (1) fixed hospital costs, (2) variable hospital costs, (3) costs of medical specialists and (4) outpatient care (including pharmaceuticals and medical devices). These prospective budgets are based on a combination of risk factors and historical costs. The risk factors currently used are age, sex, urbanization and socio-economic status. Since the funds cannot be held fully responsible for all costs, sickness funds are compensated by the following provisions:

- The budget formula is complemented by a system of excess loss compensation. Concerning variable hospital costs and outpatient care, the sickness funds are compensated for almost all expenditures above the amount of € 4,537 for an individual insured.
- Sickness funds are compensated for the fact that they are unable to influence all costs they incur. They are (partly) reimbursed for expenditures outside their control. Most important in this context are hospital services and services of medical specialists.

Table 2 presents an overview of the Dutch risk-adjusted capitation system for the year 2000. In comparison with earlier years the financial risks for sickness funds are enlarged, but not yet very impressive.

**Table 2: The Dutch risk-adjusted capitation system**

|  | Prospective budget allocation | | Retrospective adjustments |
|---|---|---|---|
|  | % on historical costs | % on risk factors | % shortfall reimbursed |
| 1. Fixed hospital costs | 100% | 0% | 95% |
| 2. Variable hospital costs[a] | 30% | 70% | 25% |
| 3. Costs of medical specialists | 0% | 100% | 95% |
| 4. Outpatient care[a] | 30% | 70% | 0% |

a. Excess loss compensation compensates the funds when these expenditures exceed the amount of €4,537 for an individual insured.
Source: Ministry of Health, Welfare and Sports (2000a) and Staatscourant (1999).

## 6. Empirical analysis

In this section we analyze the market for ZFW insurance empirically. It is claimed that most Dutch sickness funds compete with each other on a national market since 1992 (see for example Ministry of Health, Welfare and Sports, 1998). Because there are no differences in benefit package, this would imply that relatively expensive insurers lose

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[4] The following information reflects the situation as in the year 2000.

enrollees to their relatively cheap competitors. Before we test this hypothesis, we first look at the market concentration to get an indication of the room for competition. After that we look at the development of the supplementary premiums which are used as an instrument of competition. At the end of this section we examine whether the introduction of price competition has affected market shares.

*Market concentration*
The smaller the number of firms, the more concentrated a market is. Although there is no deterministic link between the level of concentration and competition intensity, the argument that a higher level of concentration leads to a less competitively market is widely accepted (George *et al.*, 1991, p. 133). In order to say something meaningful about the number of firms and their market shares, many different statistical measures are available. The concentration ratio is the most widely used indicator. It simply gives the sum of the shares of the largest firms and is an easily computable and interpretable indicator of the competition intensity.

**Figure 5: Concentration ratio Dutch sickness funds**



Source: own calculations based on figures from CVZ.

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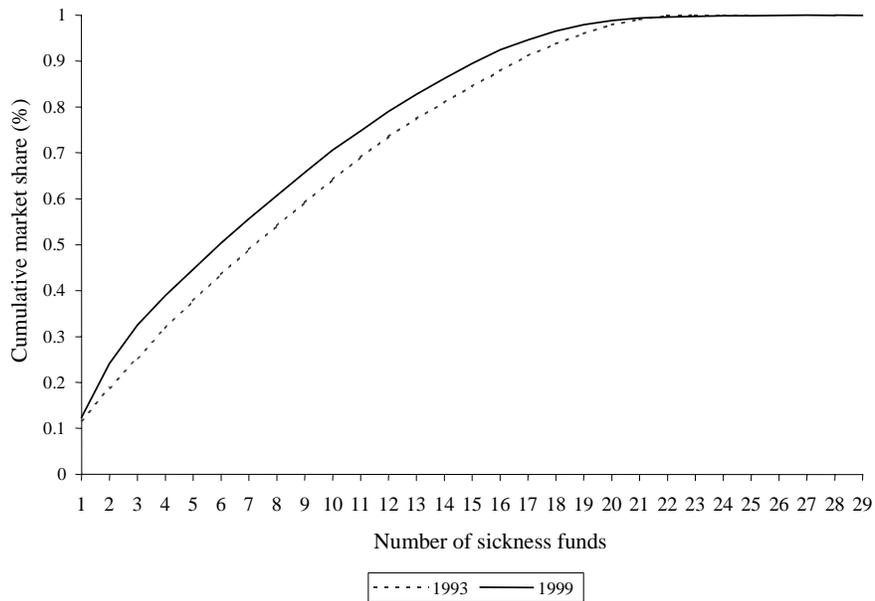
Despite the growing number of sickness funds since 1993, the market is now more concentrated (see Figure 5). This higher degree of concentration is the result of mergers between existing sickness funds. Although concentration has increased the last couple of years, it seems there is still enough room for competition. No sickness fund has such a large share of the market that it can be called a dominant fund on beforehand (see Table 3). Additionally, the removal of legal entry barriers resulted in the entrance of new sickness funds.

**Table 3: The market for ZFW insurance**

|  | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|
| Total number of funds | 25 | 25 | 26 | 27 | 29 | 29 | 29 |
| New entrants | 0 | 0 | 2 | 1 | 2 | 2 | 0 |
| Market share largest fund | 11.8% | 11.7% | 11.8% | 11.8% | 12.1% | 12.3% | 12.4% |
| C3-ratio[a] | 25.4% | 25.3% | 29.9% | 30.0% | 30.2% | 32.5% | 32.5% |
| C5-ratio[b] | 37.8% | 37.7% | 42.1% | 42.0% | 41.9% | 44.7% | 44.7% |

a. Sum of the shares of the three largest sickness funds.
b. Sum of the shares of the five largest sickness funds.
Source: own calculations based on figures from CVZ.

*Supplementary premiums*
Since the introduction of price competition in 1992, supplementary premiums have been allowed to vary among the different sickness funds. From 1993 until 1995, however, all funds (except one) charged the same premium. This situation came to an end in 1996. From that year on the variability of the premiums became greater (see Table 4).

**Table 4: Supplementary premiums (€per year)[a]**

|  | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|
| Highest premium | 89.85 | 89.85 | 89.85 | 163.91 | 108.36 | 108.36 | 200.12 |
| Lowest premium | 87.13 | 87.13 | 87.13 | 147.57 | 65.34 | 65.34 | 156.55 |
| Difference | 2.72 | 2.72 | 2.72 | 16.34 | 43.02 | 43.02 | 43.56 |
| Unweighted average | 89.63 | 89.63 | 89.74 | 155.70 | 98.20 | 97.88 | 178.96 |
| Standard deviation | 0.75 | 0.75 | 0.53 | 3.74 | 7.78 | 8.36 | 12.61 |
| Coefficient of variation | 0.01 | 0.01 | 0.01 | 0.02 | 0.08 | 0.09 | 0.07 |

a. Due to differences in benefit package and co-payment rates, the absolute level of the premiums can differentiate considerably between the years.
Source: own calculations based on figures from CVZ.

Figure 6 shows the gap between the highest and the lowest premium in the market.

**Figure 6: Supplementary premiums**
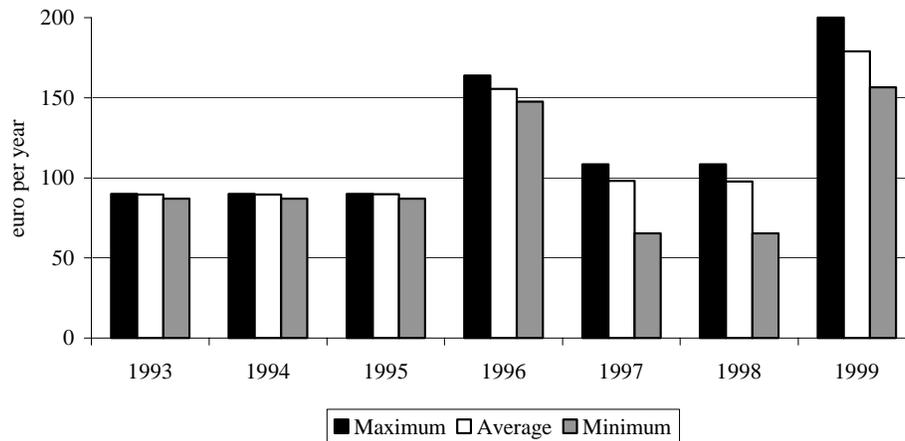


Source: own calculations based on figures from CVZ.

*Relationship between market share and supplementary premium?*
In case of effective price competition, a clear relationship is expected between supplementary premium and market share. Relatively cheap sickness funds then enlarge their market share at the expense of relatively expensive funds. We assess the impact of price competition by estimating an equation relating market share (M) to supplementary premium (P). The variable P acts as a proxy for each fund's competitiveness, because supplementary premiums are divided by the sample mean for each year. When P is larger than one the sickness fund in question is relatively expensive, when P is smaller than one it is relatively cheap. To test the hypothesis that market shares are influenced by supplementary premiums, we use panel data for 23 sickness funds over the period 1996-1999, covering more than 80 percent of the market. Because omitted variables may lead to changes in the cross-section intercepts we do not use the least-squares pooling procedure. Instead, we introduce dummy variables that allow the intercept term to vary over cross-section units. This fixed-effects model can be written as

$$M_{it} = \alpha + \beta P_{it} + \gamma_2 W_{2t} + ... + \gamma_{23} W_{23t} + \varepsilon_{it}$$

where $M_{it}$ is the market share of sickness fund *i* in year *t*. $W_{it}$ is a dummy variable and has the value one for sickness fund *i* (*i* = 2,…,23) in year *t* (*t* = 1996,…,1999) and zero otherwise. The estimation results are presented in Table 5.

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**Table 5: Estimation results**[a]

| Variable | Coefficient | Std. Error | t-Statistic | Probability |
|----------|-------------|------------|-------------|-------------|
| $P_{it}$ | -0.0034 | 0.0025 | -1.38 | 0.17 |
| $R^2 = 0.9993$[b] | | | | |

a. The estimated fixed-effects are not presented here, but are available on request.
b. Any variation in $M_{it}$ is almost completely explained by the fixed effects.

Based on these results, the hypothesis that market shares are influenced by supplementary premiums is rejected at a five percent significance level. In other words, for the given time period, market shares were not affected by fluctuations in supplementary premiums. Our estimation results are in line with the findings of Hassink (1998) and Schut (2001). Only Kalshoven (1999) concludes that price competition among Dutch sickness funds has an effect on the number of insured.

The introduction of price competition among Dutch sickness funds in 1992 has not resulted in altering market shares. To our opinion four possible explanations can be mentioned. First, differences in supplementary premiums are currently small when expressed as a percentage of total premium payments. When a member of the most expensive fund switches to the cheapest one, this person saves at most 3 percent of its total premium payments (based on a taxable income of €20,000).[5]

Second, sickness funds posses regional market power. Until 1992 the sickness funds operated on a regional level. On historical grounds each fund is located in a region in which they often have more than 60 percent market share. Mergers between neighboring sickness funds have strengthened this regional market power even further (Schut, 1995). Even though it seems that there is enough room for competition on a national market, it is possible that remaining regional structures will prevent this from happening. Most sickness funds only have attractive contracts with health providers established in their own region. Thus, a relatively cheap sickness fund in region A is not necessarily a good alternative for people who live in region B. As a result, price differences will not always lead to altering market shares. Additionally, most individual separately budgeted sickness funds in practice operate as members of the same holding company. This makes that Table 3 underestimates actual market shares. Recent calculations made by Van den Brink (2001), suggest that 71 percent of all ZFW enrollees is insured at one of the five biggest holding companies.

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[5] In a recent article Schut and Laske-Aldershof (2001) argue that most people do not look at their total premium payments, but at their supplementary premium payments. When this is the case, differences look bigger. A member of the most expensive fund can then save at most 40 percent.

Third, the obligation for the funds to accept all people who apply for ZFW insurance does not count for supplementary insurance contracts. So it is possible that a person who wants to leave a relatively expensive sickness fund, is not able to buy his or her desired insurance package (ZFW + supplementary) somewhere else. As supplementary insurance is  important for most people (especially for those with chronic illnesses), freedom of choice is restricted (Schut, 2001).

Fourth, switching costs can give sickness funds a degree of market power over their current enrollees (see for example Klemperer, 1995). For example, there may be high transaction costs which make it costly to switch health insurance. Uncertainty about the quality of other sickness funds can also make that people stay at their current insurer, even when they know there are cheaper alternatives.

## 7.    The experiences in Belgium and Germany

The previous section shows that Dutch policy measures have not evolved as the government expected. In order to see whether other countries are more successful in introducing competition among social health insurers, we now discuss the relevant experiences in Belgium and Germany. The health insurance system in Belgium and Germany is comparable with the Dutch health insurance system. In both countries, a large part of the population has compulsory insurance within the social insurance system which is administered by non-profit sickness funds. Furthermore, equity and universal access to medical care are prominent values.

*Belgium*
Belgium has a compulsory national health insurance plan covering major health risks (including inpatient and long-term care) for the entire population and minor risks (including outpatient care) for nearly 90 percent of the population. The Belgian compulsory scheme includes both health insurance coverage and income support in the event of illness and is administered by five private non-profit organizations called mutual aid funds ('mutualiteiten') and one public fund. The latter is for those who refuse to join a sickness fund or who neglect to do so. The five mutual aid funds comprise a total of about hundred local insurers – the sickness funds – differing in size from a minimum of about 400 enrollees to a maximum of about 450,000. In addition to compulsory health insurance, the sickness funds offer supplementary insurance to cover services not provided under the system of social health insurance and voluntary insurance. Due to the almost nation-wide coverage of the social health insurance scheme, few opportunities are left for private health insurance companies. Therefore, in terms of market volume, private health insurance is small in Belgium (Van Kemenade, 1997).

The financial system of the Belgian compulsory health insurance strongly resembles the Dutch system. The various sickness funds receive a yearly budget from a central fund.

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This central fund is financed by income-related premiums and government contributions. The income-related premium rate is set by the government and is not allowed to differ among the funds. In addition, the compulsory insured also have to pay a extremely small flat rate premium of about € 2.50 a year to their sickness fund (Schokkaert & Van de Voorde, 2000). Furthermore, Belgium has an extended system of co-payments with rates generally differing from 25 to 30 percent.

In contrast to earlier years, the global budget of social health insurance is now determined before actual expenditure is known. The budget each sickness fund receives from the central fund is a weighted combination of risk-adjusted capitation provisions and the expected actual expenditures for the year in question (Kesenne & Diels, 1996). The risk-adjusted payments are intended to avoid cream skimming as much as possible. In contrast with countries like the Netherlands and Germany, the Belgian government ruled out the option of using simple risk adjustment schemes. In 1994 a long list of possible risk factors was specified. Besides factors like age, sex and family structure, this list also includes for example income, morbidity-related characteristics and regional factors such as indicators of urbanization. However, the current capitation formula still explains only a small fraction of the variation of medical expenditures.

When calculating the funds' yearly budget the greatest weight is given to actual expenses. Currently 30 percent of the budget is based on prospective risk-adjusted capitation payments. After the year 2002, this will be increased to a maximum of 40 percent. Although the budget of each sickness fund is largely based on its actual expenditures, it is important to note that the reimbursement of all funds together can not exceed the national budgetary objective. Therefore, its share in the total health expenditures of all funds collectively determines the exact reimbursement of actual expenditures for each fund. To contain costs and increase efficiency, the Belgian government has put the funds at a financial risk. Each sickness fund is currently responsible for 25 percent of its possible shortfall. The other 75 percent is borne by inter-mutual solidarity: deficits of some funds are covered out of the surpluses of other sickness funds.

Despite the recent reform of 1993, Schokkaert and Van de Voorde (2000) argue that Belgium has not really taken the step towards stronger competition. Competition is very limited, because the offered benefit package, contribution rates and fee schedule on which reimbursement to patients is based are all determined by law and the impact of any variation in supplementary premiums is nil. Furthermore, it is mentioned that the market for compulsory health insurance is not only strongly concentrated, but also closed and non-contestable (Nonneman & Doorslaer, 1994). Competition among Belgian sickness funds is therefore restricted to the quality of service delivery – such as the speed of settling claims – and supplementary insurance. The lack of competition is also expressed in the fact that selective contracting is still not allowed in Belgium. Currently, sickness funds negotiate as a cartel with health care providers. As a result,

individual sickness funds do not have the adequate instruments to influence their own expenditures and contain costs.

*Germany*
In Germany about 88 percent of the population is enrolled in Statutory Health Insurance (GKV). Approximately 14 percent of these enrollees are voluntary members who are also entitled to change over to private health insurance. Enrollment in GKV insurance is compulsory for employees who earn a gross income below a certain threshold and for some special groups (like retirees, farmers and students). The German statutory scheme is administered by non-profit sickness funds ('Krankenkassen'). The majority of the funds' revenues originates from income-related premiums, which the insured pay directly to their sickness funds. Since each individual sickness fund must cover its expenses with its own payroll contributions, premiums among sickness funds can differentiate. Premiums however, must be set within a framework – that is between a minimum and maximum rate – which is determined by the federal government. In accordance with the wide-accepted principle of equity, the sickness fund premium for any given fund is the same for all members, regardless of their personal characteristics. The sickness funds are required by law to offer a minimum benefit package and the insured have to pay co-payments for certain health care services, such as pharmaceuticals, dentures and hospital stays. Unlike private insurance companies, sickness funds are not allowed to provide supplementary insurance.

As in the Netherlands and Belgium, the German government also faces serious pressure to contain costs and increase the efficiency of their public health insurance system. The Health Care Structure Act (1992) encompassed the reinforcement of competition. Some competition among sickness funds already existed, but freedom of choice was limited. This led to serious distortions as higher risks and lower incomes were overrepresented in certain funds. As a consequence, a substantial gap between the highest and lowest payroll contribution rates existed and this undermined the principle of equity. For that reason, the German government decided to reform the health insurance system in the early nineties. Under the new legislation almost every enrollee – including the compulsory insured – has the opportunity to switch from one sickness fund to another once a year. The most remarkable result of the intensified competition among sickness funds in Germany is a strong reduction in the number of sickness funds, from 1,221 in 1993 to 453 in 1999 (Brown & Amelung, 1999).

To avoid adverse selection and cream skimming in a competitive market, the German federal government established a risk compensation pool. In this way, differences among the sickness funds caused by factors outside their control had to be removed by means of risk-adjusted capitation payments. As a result the competitive position of the sickness funds was being equalized as much as possible (Greiner & Graf von der Schulenburg, 1997). The current risk-adjustment parameters are age, sex, income and family structure. The subsidies to funds with an unfavorable risk-structure are paid

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prospectively, without regard to actual costs and the *ex post* financial situation of the fund. An important consequence of this risk adjustment is that the premium differences between funds decline. For example, the premium of a relatively rich sickness fund with a lower-risk clientele will rise in order to generate the extra resources needed to subsidize funds with a relatively poor, higher-risk clientele.

The German Health Reform was intended to provide sickness funds with incentives to reduce costs and increase service quality, while preserving accessibility. However, the new statute has not had the effects policymakers hoped for. A few reasons for this can be mentioned (Files & Murray, 1995; Brown & Amelung, 1999). First, competition is still limited. Benefits are determined by the federal government and selective contracting of health care providers is prohibited. Second, some argue that the risk-adjusted capitation scheme has removed much of the premium differences that made some funds more competitive than others. Third, the current four risk-adjusted parameters – age, sex, income and family structure – are too crude to avoid cream skimming. Although sickness funds are compelled to accept everyone who wants to enroll, they might use marketing as an instrument for favorable risk selection. Another concern is that only high-income employees are allowed to buy health insurance on the private market. Funds are worried that the premium differences by which the lower risks subsidize the higher ones may drive the former into private insurance plans. This can eventually reduce the funding base of the equity principle.

*Three countries facing similar problems*
To improve efficiency Belgium, Germany and the Netherlands have introduced competition among social health insurers accompanied by the introduction of risk-adjusted capitation payments in the early nineties (see Table 6). However, since equity considerations play an important role in social health insurance, competition is limited. In all three countries benefit package is not allowed to differ and premium differences are small (the Netherlands) or even nil (Belgium). Germany has the best opportunities for price competition, since in that country social health insurers can set their total premium independently. Although it is said that risk-adjustment reduces the possibilities to use premiums as a competitive tool, the number of Germans who leave one fund and join another is increasing. Most of these people mention lower contributions as the prime motive (European Observatory on Health Care Systems, 2000).

**Table 6: Competition among social health insurers**

|  | Belgium | Germany | Netherlands |
|---|---|---|---|
| Competition on: |  |  |  |
| - benefit package? | no | no | no |
| - income-related premium? | no | yes | no |
| - flat rate fee? | no | - | yes |
| - supplementary insurance? | yes | no | yes |
| Risk-adjustment: |  |  |  |
| - prospective capitation payments? | yes | yes | yes |
| - retrospective adjustments? | yes | no | yes |
| Selective contracting allowed? | no | no | yes[a] |

a. But hampered in practice because of fixed fees and central planning.

In Germany the financial responsibility for sickness funds seems larger than in Belgium and the Netherlands. Where in the latter two countries prospectively allocated budgets are retrospectively adjusted, the German sickness funds are only *ex ante* compensated for their risk structure by a risk compensation pool. Thus, the German funds have to balance their expenses completely with their premium revenues and the compensation payments they receive. However, because selective contracting is not allowed in Germany, the funds are not able to influence all the costs they incur in order to enhance efficiency. The same is true for Belgium, but the financial risks for the Belgian sickness funds are much more limited. Only in the Netherlands selective contracting is allowed. However, this is hampered in practice because of fixed fees and central planning. Additionally, the existence of asymmetric information contributes to a dominant position of health providers. This may require sickness funds with market shares to be close to regional monopolies, which limits the room for competition even more.

This section shows that the Dutch problems in social health insurance reform are not exceptional. Although Belgian and German policies are different on some points, these countries encounter the same difficulties as the Netherlands do. So it can be concluded that they all face the same challenge for the future: how to create the right competitive environment for sickness funds with adequate financial incentives? Until now, it can be said that neither Belgium, Germany nor the Netherlands have found the ultimate solution to this problem.

## 8.    Conclusion

It is very difficult to implement competition among health insurers when equity considerations are highly valued features, because free market competition can lead to adverse selection and cream skimming. To avoid these problems risk-adjusted capitation payments are used, but these can not (yet) sufficiently predict individual health care expenditure. Both Belgium, Germany and the Netherlands have therefore

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not yet created the right competitive environment with adequate financial incentives. The current budget method for sickness funds needs to be refined. Only prospective budgeting with the use of a better capitation formula can create stronger financial incentives for the sickness funds to operate efficiently. In addition to this, it is necessary to give the sickness funds more room for selective contracting of health providers. Central planning and regulation of health care services must therefore be relaxed.

It seems that the introduction of competition among social health insurers has not been effective. Our estimation results indicate that during the period 1996-1999 in the Netherlands no significant relationship existed between supplementary premiums and market shares. It seems that expensive and possibly more inefficient insurers did not lose customers to their competitors. Possible explanations are the small differences in supplementary premiums, regional market power, restricted freedom of choice and switching costs.

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