Competition in the Dutch health care sector

Competition in the Dutch health care sector

Concurrentie in de Nederlandse gezondheidszorg

Proefschrift

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To my parents

Preface

When I started in 1985 as a research assistant at the Department of Health Policy and Management, health policy was in a state of flux. The focus of health policy was shifting from government planning towards the use of market forces for organizing the health care system. This change was exemplified by the proposal of the Dekker Committee (1987) to reform the health care system by introducing regulated competition among health insurers and health care providers within the context of a national health insurance scheme. Despite the rapidly growing, predominantly American, economic literature on the potential impact of competition in the health care sector, the subject was still largely a *terra incognita*. Hence, I became involved in several research projects concerning the role of competition in health care. This thesis gives account of the main findings of these research projects. Several findings were published earlier in books and in national and international journals.

Writing a thesis is very much an effort at self-education, but the assistance and education by others is indispendisable. I am most indebted to Wynand van de Ven for his stimulating and critical comments on the numerous drafts and for the inspiring cooperation in different research projects. Thanks are also due to Warren Greenberg, Bradford Kirkman-Liff, Jim Morone, René van Vliet and several anonymous referees of various journals for offering valuable comments on drafts of different chapters of the manuscript. I would like to thank Mr. D.J.A. Uiterweerd from *De Verzekeringskamer* for his considerable efforts to dig up hundreds of annual reports and official annual publication accounts (*verslagstaten*) of insurance companies from the archives. Without data derived from these annual reports and accounts the empirical analysis in Chapter 4 would not have been possible. I am also grateful to the insurance company AMEV for offering the opportunity to consult its impressive insurance library and for using its copying facilities.

Although they were not involved in the writing of this thesis, discussions with the multidisciplinary group of collegues at the department of Health Policy and Management helped me in bridging the gap between economics and health. Regrettably, health economics is a largely neglected subject at the economic faculties of Dutch universities. Therefore, I am still grateful to Jan Veenbergen for organizing one-semester courses on health economics. His enthousiasm in

teaching these courses turned my initial scepticism about the relevance of the 'dismal science' for medical care into fascination for the intriguing problems of market organization in this sector. My both ushers (*paranimfen*), Peter van Bergeijk and Marten de Bruine, have also indirectly contributed to this thesis. With Peter I did my first health services research, resulting in our first publications in economic journals. With Marten I did not only share the same office but also the same research interests and especially Chapter 4 benefited from this synergy.
Special thanks are due to Ronald Kouwenhoven, whose professional editorial work turned my 'foggy' manuscript into the bright book you see, and to Caroline Zeevat for designing the beautiful cover.
Finally, it is a good tradition to conclude with thanking those whose contributions were the most intangible, yet most important: my parents, to whom this book is dedicated, and my wife, Margreet. My little Iris was the only one who could distract me from writing this thesis at any moment without spoiling my humour. I miss her.

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Introduction

For more than two decades, Dutch health policy has been marked by a search for a suitable market order in health care. Suitable in the sense of maintaining universal access, containing the growth of health care expenditure and improving the technical and allocative efficiency of health care delivery. This search was spurred by the seemingly uncontrollable escalation of health care expenditure during the early 1970s. The solution initially put forward to control health care cost inflation was that of comprehensive government planning. Although the envisioned sophisticated health planning largely failed, the government did manage to gain substantial control over total health care expenditure by unilaterally imposing restrictions on the capacity and operating expenses of inpatient care institutions. However, the adverse consequences of such a top-down rationing strategy were the subject of growing criticism. Health care was thought to be too inefficient due to detailed government regulations which impeded cost-effective substitution of care (technical efficiency), provision of 'tailor-made' care to consumers (allocative efficiency) and quality-improving and cost-reducing innovations in the organization and delivery of care (dynamic efficiency). Since in many industries the market mechanism is seen as the most successful device for enhancing efficiency it is not surprising that the search continued in the direction of a more market-oriented health care system. Therefore, since the mid-1980s, competition has become the new 'buzzword' in health policy. This change of direction was in accordance with a much broader international reorientation of social policy under the banner of 'more market, less government' which is steadily undermining the Dutch corporatist welfare state. For a long time, however, competition was widely regarded as an unsuitable mechanism for determining resource allocation in health care. Competition was generally considered as having adverse effects on not only access and equity but also on efficiency, due to the presence of pervasive information problems. This raises the question of why the expectations on the role of competition in health care have changed and whether there is some reason behind this rhetoric.

In this thesis the role and feasibility of competition in the Dutch market for health insurance and medical care are investigated. Competition is an elusive term, one which is used to describe either a particular market structure or a

certain type of conduct. In the latter case, competition may cover all aspects of a commodity but could also be restricted to specific aspects, non-price competition for instance. In this thesis the term competition will be used to denote rivalry among sellers of a commodity for the patronage of potential buyers where rivalry concerns both price and non-price aspects of that commodity.

The *first chapter* examines what role competition can play in health care markets towards improving efficiency under constraints of equity and cost containment objectives. The specific characteristics of health care markets are described and their effects upon efficiency, equity and cost containment are analyzed. The key question is whether an institutional structure can be designed within which competition may improve efficiency and, if so, which preconditions have to be fulfilled.
In the Netherlands, an institutional design for regulated competition in health care within the context of a national health insurance scheme was proposed in 1987 and became the objective of subsequent health care reforms. Whether the Dutch design is likely to provide the necessary conditions for effective competition in health care is examined in *chapter* 2. But the theoretical feasibility of regulated competition tells us nothing about its feasibility in practice. Hence, there is a need to analyze policies which will induce its development. To this end, a thorough understanding of the incentive structure embodied in institutions, and the way they evolve through time, is required. To assess the practical feasibility of the Dutch health care reform, the second chapter analyses the institutional features of the Dutch health care system and their transformation during the postwar period. Against this background, the reasons for market-oriented health care reform in the Netherlands, as well as the problems and perspectives involved, are evaluated.
The method of health care financing is crucial to the performance of health care markets. Chapters 3 and 4 focus on the effects of competition in private health insurance markets. In the *third chapter* a theoretical model of a competitive insurance market is developed. An explanation is offered as to why unregulated competition does not result in an optimal performance in terms of efficiency. Furthermore, an examination is made of whether a simple regulatory constraint on market behavior – such as a collective agreement on the calculation of risk premiums – can direct competition towards improved market stability and generate more efficient outcomes.

The *fourth chapter* analyzes the role of competition in the Dutch private health insurance market throughout this century. The effects of unregulated competition on market stability and access to health insurance are analyzed in

four consecutive periods. For the last period an empirical model is developed to test for the presence of premium spirals for adversely selected health insurers. Based on these empirical findings, inferences are made on the feasibility of unregulated competition and self-regulation in a private health insurance market.
The next two chapters evaluate the prospects for workable competition in health care and discuss the relevance and potential effect of antitrust policy. *Chapter five* investigates whether the structural health care reform measures are likely to induce the intended conduct. Structure and conduct in the markets for health insurance, physician services and hospital services are analyzed to assess the scope for workable competition in the Dutch health care system.
Chapter six evaluates the potential role of Dutch and EU competition policy in sustaining workable competition in health care. So far, experience with antitrust enforcement in health care has been confined to the United States. A number of important antitrust cases in American health care are therefore reviewed to assess their potential relevance for the Netherlands.
Finally, the main findings are summarized in *chapter 7*.

The following remark is made for the convenience of the reader. Because (versions of) the chapters of this thesis are written as separate articles for scholarly journals[1], each chapter can be read as an independent entity, highlighting different aspects of a common theme. The obvious advantage for the reader is that (s)he can skip one or more chapters, for instance the rather theoretical chapter 3, without missing essential information necessary to understanding the other chapters. The other side of the picture is, however, that various chapters have some degree of overlap, particularly with regard to the description of the Dutch health care system and its reforms.

1 Chapter 2 has been accepted for publication in the Journal of Health Politics, Policy and Law (Schut, 1995). Versions of chapter 3 and 4 have been submitted for publication to international economic journals. Chapter 5 has been published in Social Science and Medicine (Schut, 1992a) and chapter 6 is based on a publication in Health Policy (Schut et al., 1991).

1

Competition in health care:
between poison and panacea

Summary

This chapter examines the potential role of competition in improving efficiency of resource allocation in health care markets under equity and cost containment constraints. In an unregulated competitive health care market resource allocation cannot be efficient because of the presence of considerable and asymmetrical uncertainty about the need and the effect of medical care. Information asymmetries between providers, insurers and consumers give rise to four fundamental principal-agent problems. The efficiency of resource allocation in health care depends on the extent to which these problems can be addressed. Moreover, efficiency also depends on the extent to which the prevailing strong altruistic preferences with regard to medical care utilization can be internalized.

The most promising model to deal with the agency and externality problems in the market for non-catastrophic risks is Enthoven's concept of regulated or managed competition. The managed competition model can also satisfy different distributive goals, but there is no guarantee that it can constrain total spending growth. For a successful implementation of the managed competition model several complicated technical problems have to be mastered, such as the development of adequate risk-adjusted payment system for health insurers or consumers, the systematic gathering, evaluating and disseminating of information about quality of care and the development of standardized product definitions and related output prices of different health services. The rapidly advancing information technology augments the capability and reduces the transaction costs of dealing with these technical problems. Besides, solutions to these problems are, to some extent, critical to the success of other health care reform proposals as well. Solving these technical problems is a necessary but not a sufficient condition for a successful implementation of managed competition in health care. Eventually, the feasibility of the managed competition model crucially depends on the adaptive efficiency of the institutional structure of society.

1.1 Introduction

In many countries with a mixed market economy health care systems are characterized by the virtual absence of price competition. For a long time price competition was generally considered an alien concept to health care, because free competition was thought not only to jeopardize universal access and cost containment, which are primary goals of government health policy in most countries, but even to cause an inefficient allocation of resources and thus a welfare loss to society (Barr 1992). However, rising health care expenditure and increasing evidence of considerable inefficiency in health care finance and delivery led to a reconsideration of the role of competition in health care. In an increasing number of countries health care reforms are being proposed or initiated that aim at reinforcing the role of market forces in health care resource allocation.

Whether and how competition can contribute to efficiency while achieving a reasonable level of equity and cost containment is the subject of this chapter. In subsequent sections, the issues of efficiency, equity and cost containment will be investigated.

1.2 Efficiency

As explained by Arrow (1963) competition in medical care will not generate socially efficient allocations due to the existence of uncertainty in the incidence of disease and in the efficacy of treatment.[1] Medical care is different from other commodities and services because of the prevalent uncertainty about the moment, extent and effect of consumption. Furthermore, as argued by Arrow, the special quality to the uncertainty is that it is very unequal on the two sides of the transaction. Providers typically have considerably better information about the appropriateness and efficacy of treatment than the consumers. In the presence of asymmetric information, information itself becomes a commodity. Indeed, a substantial part of medical care consists of pure diagnostic or therapeutic information. When information itself is traded, optimal pricing becomes difficult since 'the value of information is frequently not known in any meaningful sense to the buyer; if, indeed, he knew enough to measure the value of information, he would know the information itself' (Arrow 1963, p. 946).

1 An allocation of resources is defined as socially or Pareto-efficient when it is impossible to make anyone better-off without making someone worse-off. If a competitive equilibrium exists at all, and if all commodities relevant to costs or utilities are in fact priced in the market, then the allocation of resources is necessarily Pareto-efficient (this proposition is known as the first optimality theorem).

By defining the patients' needs, providers can affect the demand for their services. Hence, supply and demand may not be independent, so that price can not serve as the primary means to balance supply and demand. If the price is above marginal cost, what usually is the case in the absence of price competition, and if the quantity demanded by the patients is less than the amount the provider wishes to supply given that price, there is an incentive for the provider to exploit his information surplus to induce additional demand for his services. The phenomenon that medical care suppliers induce patients to demand more services than they would have demanded if they had the same medical knowledge and expertise is known as '*supplier-induced demand*'.

Since all individuals are averse to sufficiently large risks, they would like to insure against the risk of becoming ill and the risk of incomplete or delayed recovery. The larger these risks became throughout this century, due to advancements in medical science, medical technology and the concurrent increase in the cost of medical care, the larger the positive welfare effects of health insurance and the more widespread health insurance (or other systems of risk pooling, such as tax-based government financing) became. However, the welfare enhancing effect of health insurance is to some extent offset by its perverse incentives to health care providers and consumers. The position of health insurers as financial intermediaries between providers and patients distorts the usual incentives of the price mechanism. Since insurance reduces the marginal cost of medical care to the individual it may result in excessive medical care consumption. The phenomenon of insurance-induced over-consumption is known as '*moral hazard*'. Neither individuals nor providers are prompted to restrain excess use of medical services since the cost of an individual's excess usage is spread over a large number of other policyholders. Providers may be inclined to induce additional demand for services of which they know that the costs are covered by insurance. So one can distinguish between 'supplier-induced moral hazard' and 'consumer-initiated moral hazard'. The moral hazard problem is particularly relevant to health insurance as contrasted with other lines of insurance, because insurers have highly imperfect information about the appropriateness of medical diagnoses and treatments. Hence, it is very difficult for health insurers to value the damage caused by a disease and to appraise the costs of treatment (or 'repair'). Moreover, health insurers usually cannot judge whether or not subscribers have taken action to prevent diseases from occurring, which make it hard to relate premiums to subscribers' preventive activities. So, the moral hazard problem also arises from the unequal distribution of information between the parties involved.

The functioning of insurance markets is further hindered by yet another information asymmetry. When applying for insurance, applicants may have

better information about their risk than the insurance companies. High-risk applicants may exploit this information surplus by buying insurance contracts below a price sufficient to cover the expected claim costs and other necessary expenses. This phenomenon is known as '*adverse selection*'. As demonstrated by Rothschild and Stiglitz (1976) adverse selection may not only result in a suboptimal allocation but even in the non-existence of a competitive equilibrium in insurance markets.

In sum, an unregulated competitive health care market will not generate efficient outcomes because information asymmetries between providers, insurers and consumers create problems of supplier-induced demand, moral hazard and adverse selection. This intrinsic market failure may be an important motivation for government intervention and self-regulation in health services and health insurance markets, or, as formulated by Arrow (1968, p. 538): 'The price system is intrinsically limited in scope by our inability to make factual distinctions needed for optimal pricing under uncertainty. Nonmarket controls, whether internalized as moral principles or externally imposed, are to some extent essential for efficiency.'

The major thrust of Arrow's classical article (1963) was that many of the special characteristics of the medical care market – such as professional licensure, ethical codes of conduct, absence of price competition and profit-maximizing behavior, and the existence and form of health insurance – can largely be explained as attempts to overcome the lack of optimality of an unregulated competitive market for health services. However, as argued by Pauly (1978, p. 19), the problem is that we only know that such public and private institutional arrangements might improve matters: 'but it is a large step from *might* to *will*.' The medical care market should not be compared with the competitive model but with the equilibria that could be achieved under alternative institutional arrangements. However, 'what has not been developed, by Arrow or anyone else, is a theory which shows why and how welfare-increasing restrictions would be expected to emerge from the interaction of self-interested providers and consumers. That is, we need a theory to explain why and how a desirable 'social contract' would be expected to be chosen' (Pauly 1978, p. 20).[2] In his Nobel-prize lecture, North (1994) asserted that an economic

2 Within the framework of evolutionary game theory some attempts are made to provide explanations for the existence and form of social institutions. For instance, Binmore and Samuelson (1994) proposed a simple evolutionary game-theoretic model in which social norms or codes-of-conduct are the outcome of an extensive process of learning and of imitation by individuals. They conjecture that the problem of understanding the evolution of social norms and the equilibrium selection problem are the same. Their model of interactive learning and imitating behavior, however, is too unrealistic to explain and predict the evolution of real world social institutions.

theory of institutional dynamics comparable to general equilibrium theory is unlikely. However, even without a fully elaborated second-best theory of the optimal social contract in a world with imperfect information and imperfect regulators, one can make inferences about efficiency increasing institutional arrangements. What is clear, according to North (1994, p. 360-361), is that in a world of positive transaction costs 'institutions are not necessarily or even usually created to be socially efficient; rather they, or at least the formal rules, are created to serve the interest of those with the bargaining power to create new rules'. Obviously, this observation holds true for the medical care sector, where the highly imperfect and unevenly distributed information causes substantial transaction costs and unequal bargaining power. So, one may wonder whether the largely non-competitive nature and nonmarket social institutions in health care are likely to (continue to) be the best response to the failure of the market to achieve an optimal state, or if, and under what conditions, social efficiency could be improved by other institutional arrangements.

1.2.1 Principal-agent problems

Information asymmetries result in transactions between a principal (or ill-informed individual or organization) and an agent (or well-informed individual or organization). To overcome the information gap principals have to design an appropriate incentive structure so that agents are motivated to act in their interest. Whether specific institutional arrangements may enhance efficiency in health care markets crucially depends on their ability to deal with the class of principal-agent problems that arise from the information asymmetries between providers, consumers and insurers (or other third-party payors).

In health care markets, four different principal-agent problems can be distinguished. Firstly, patients have an interest in having health care providers act as their agents in providing (diagnostic) information and treatment. Secondly, insurers have an interest in having health care providers economize on the use of medical care. Thus, in an efficiently organized health care system, health care providers should act as 'double agents'. Indeed, according to Blomqvist (1991, p. 412), 'it is this 'double agency' role of physicians (which is due to the combination of *both* information asymmetry *and* third-party financing) that differentiates the health services sector from other industries in which information asymmetries give rise to principal-agent problems.'

The principal-agent problem between insurers and insured is twofold. The first problem arises from the hidden preventive action by the insured once the contract is concluded. Insurers are interested in having subscribers take appropriate preventive action to reduce claim costs. The second problem arises from the applicant's hidden risk information before concluding a contract.

Insurers are interested in having buyers of insurance contracts reveal information about their risk when applying for insurance, because this may prevent adverse selection.
Generally, agency problems can be tackled in two complementary ways. Firstly, principals may try to create appropriate incentives for the agents to motivate them to act in their interest. Secondly, principals may seek ways to reduce the information gap. Below, we will examine what type of solutions are applied or proposed for each of the four agency problems.

Patient (principal) and provider (agent)
A solution to the first agency problem would require the design of an optimal incentive structure to encourage providers to take adequate account of patient preferences. The optimal incentive structure depends on the type of information the principal (the patient) has and whether the principal and the agent (the provider) are risk neutral or risk averse. For instance, when the outcome of care is the only source of information to the patient and both the provider and patient are risk averse, the optimal fee schedule will be a function of this outcome, where both actors share the risk. As observed by Arrow (1986) the optimal outcome-related fee structure as predicted by agency theory is far more complicated than the fee schedules which have emerged in health care. For instance, the prevailing remuneration system for Dutch physicians (fee-for-service for medical specialists and primarily capitation payments for general practitioners) is in no way related to the outcome (or even process) of care. Arrow (1986) and Mooney and Ryan (1993) offer several explanations for this observation. First, monetary rewards or penalties may not be the most efficient way of structuring incentives. Complex fee schedules may have high transaction costs because they are costly to devise, to verify and to adjust. A second and related explanation for the absence of outcome-related fee schedules is the problem of measuring health care outcomes and the difficulty of determining the contribution to health by the provider's diagnostic or therapeutic interventions. The high cost of a complicated fee schedule and the difficulty of measuring health care outcomes may well imply that social incentives form an efficient substitute for monetary incentives. Indeed, according to Arrow (1986, p. 1194), 'professional responsibility is clearly enforced in good measure by systems of ethics, internalized during the education process and enforced in some measure by formal punishments and more broadly by reputations.' So the behavior of medical providers is effectively constrained by the 'ethical indoctrination' during their education. In economic terms, professional ethics make that providers incorporate part of the patients' utility function into their own. When the patient's and provider's utility functions are, to a certain extent, interdependent, the optimal remuneration system crucially depend on the

nature of both the patient's and provider's utility functions (Mooney and Ryan 1993). Although the presence of effective social incentives may explain why outcome-related fee schedules are absent, it does not explain the predominance of essentially input-related fee-for-service payment systems in health care. An important reason for this may be the fact that in health care markets remuneration methods are usually not set by the principals (as supposed in the standard agency theory) but by the agents or some third party (insurance companies or governments). Since patients do not have to pay a direct price for medical services they may support fee-for-service payments because they seem to prefer a remuneration system that gives providers an incentive to err on the generous side rather than on the parsimonious side.[3] In fact, such insurance-induced support for fee-for-service payment constitutes an additional moral hazard problem. So, for both providers and patients, fee-for-service may be a favorable method of remuneration, although the resulting resource allocation is unlikely to be socially optimal.

In addition to financial and nonfinancial incentives, better information to patients may also effectuate that providers act in their interest. However, as noted by Pauly (1978), some information may be worse than no information. If information about price is cheap but information about quality is expensive, consumers may mistakenly purchase lower priced but inappropriate care. This provides a rationale for restrictions on advertising, which are widespread in health care markets. Moreover, it implies that barring inferior types of outputs and inferior types of providers from the market (e.g. through professional licensure) may be cheaper and more desirable than gathering and disseminating information on quality.

However, several important counter-arguments can be made. Firstly, consumer ignorance is not equally relevant for all kinds of medical care. Pauly (1978, 1988a) argues that households may be 'reasonably well informed' about the quality of medical services which they purchase relatively frequently (e.g. pediatric care, most of routine dental cavity repair and prevention, prescription drugs for common or chronic conditions, most non-prescription drugs, and routine care for persons with chronic conditions).[4] When providers supply services on a regular basis they have the opportunity to establish reputations or goodwill with consumers. Hence, in health care markets consumer information about quality usually does not apply to the product but to the producer.

3 The preference for too much rather than too little care is based on the presumption that too much care cannot cause much harm. However, results from the RAND experiment suggest that iatrogenic effects of excessive care may be equally harmful to health as the adverse effects of withholding necessary care (Newhouse et al. 1993).

4 Davies and Ware (1988) found that for common problems consumers can distinguish between the technical aspects of care judged 'good' and 'less-than-good' by physicians.

If a consumer can judge which provider sells the high quality service, he need not be informed about the quality of each specific service. In other words, medical care can be designated as a *reputation good* (Pauly 1988a). Pauly estimates that about one-fourth of personal medical care spending occurs when purchases are consumer initiated and repetitive and when experience is tolerably good. Moreover, he argues that for a well-functioning market not all consumers have to be well-informed. If enough consumers are sufficiently informed about prices and quality, the remainder can appropriately judge quality by price. So for about one-fourth of medical spending a competitive market may generate a reasonably efficient outcome, especially when consumers are not fully insured for these services. In that case improving consumer information or removing constraints on information may be welfare enhancing. There is some empirical evidence to sustain this argument. Advertising restrictions in the market for optometric services in the US are associated with higher prices and lower quality (Feldman and Begun 1978, Kwoka 1984, Haas-Wilson 1986). Haas-Wilson (1990) found that intra- and interprofessional competition in the US market for psychotherapy can constrain the pricing decisions of psychotherapists, and that improving consumer information increases the effectiveness of this competition. Social workers with established reputations for high-quality care were able to charge higher prices.

A second argument against the supposition that improving consumer information will not enhance efficiency, is that the rapid advancing information technology increases the accuracy and reduces the costs of evaluating medical treatments. Besides, as argued by Wennberg (1988), advances in statistical theory, in medical care epidemiology, in psychometrics and in decision analysis have enormous significance for the possibility to assess the outcomes of medical care. Relevant process and outcome measures of quality of care can be derived from different complementary data sources, such as patient reports, medical records and administrative or claims data (Siu et al. 1991). Brook and Kosecoff (1988) depict the outline of a quality assessment system which is to generate fair, reliable and valid information that is understandable to the public. They argue that competition is unlikely to result in the development of valid systems to measure quality of care because total investments will exceed individual benefits. Besides, others may benefit from the investment without paying for it (free-rider problem). The underlying reason is that no property rights exist to medical treatments (diagnostic and therapeutic procedures and strategies) and no liability for the use of a new treatment by others (Phelps 1992). Hence, the inventor of a new treatment cannot reap potential profits (except for a gain in professional status) and has no liability regarding its subsequent use. By contrast, for manufactured inputs used in medical care, such as drugs, medical devices and equipment, property rights and liability rules provide producers

with powerful economic and legal incentives to obtain and disseminate information about the efficacy and safety of their products. These incentives explain why investments in evaluation of new drugs and medical devices outclass investments in quality assessment of new medical treatments. The absence of normal economic and legal incentives imply that quality assurance systems regarding diagnostic and therapeutic procedures and strategies should be considered as a public good requiring public investments.[5] Alternatively, as suggested by Phelps (1992), one could introduce property rights by allowing providers to patent new medical treatments, but he is skeptical about such the potential success of such a strategy, given the largely unfortunate experiences in similar areas, including legal procedures, art and architectural design.

A third argument for the potential efficiency-enhancing effect of better consumer information, is the increasing role of consumer organizations. In many countries consumers have established representative organizations (such as consumers' unions and patient associations) which are increasingly involved in collecting, evaluating and comparing information about price, service and quality of medical care.[6] The resulting economies of scale will increase the optimal amount of information gathering. In addition, competition may motivate health insurers to act as an agent on behalf of their consumers, by using claims data to assess the quality of care of contracted health care providers.

A final argument is that even with an appropriate incentive structure providers cannot act as perfect agents because they lack sufficient information themselves about the effectiveness of diagnostic procedures and therapies. Wennberg et al. (1982) found that professional uncertainty about appropriate medical treatment is a major cause of large variations in per capita use of certain common surgical procedures among neighboring populations. The higher the uncertainty about diagnosis, the consequences of not intervening and the clinical outcome of specific procedures, the larger the small area variations in use. In the Netherlands, empirical support of the professional uncertainty hypothesis was provided by Van Vliet (1988), who found that length of stay for specialties with relatively discretionary treatment options (internal medicine) was more affected by factors not related to health status than length of stay for other specialties.

5 In 1990, the US federal government has established the Agency for Health Care Policy and Research (AHCPR) to support evaluative studies on the value of surgical interventions, diagnostic technology and the use of hospitals. However, the funding level of the program is judged to be inadequate and minuscule compared with the investments in the evaluation of new drugs and biomedical research (Phelps 1992, Gelijns and Rosenberg 1994).

6 In the Netherlands the National Council for Public Health (NRV 1994) proposed to subsidize (Dfl 8 million per year) the 27 regional patient associations to set up information systems about the availability and quality of providers and facilities. Quality information will be confined to consumer valuations, which are particularly relevant for judging interpersonal aspects of care and the technical quality of care for common outpatient problems (Davies and Ware 1988).

Van Harten et al. (1991) found evidence of large variations in medical practice also for relatively non-discretionary treatments, which suggests that professional uncertainty can provide only a partial explanation for divergent practice patterns. Phelps (1992) concludes from review of the literature that large variability in medical care use across regions occur in different countries and cannot be explained by usual demand factors (such as age, income and insurance coverage). He argues that because medical care is generally a local service industry, one does not find usual market forces driving out inefficient modes of production. Moreover, as argued before, due to the absence of property rights and liability rules regarding medical treatments the standard economic and legal incentives to abandon inefficient modes of treatment are largely missing. Therefore, 'local schools' of belief about the appropriateness of treatment strategies can emerge and persist, which are based on inherently variable small-sample inferences about the efficacy of medical interventions in specific localities, resulting in different patterns of practice in the aggregate.[7] In the Netherlands, large regional and local variations in medical treatment were established in several studies. At the hospital level, Van Vliet (1988) found large differences for length of stay, for readmission probability and for costs per hospitalization, which could not be explained by the observed differences in patient populations between hospitals. Notably, he found little correlation among the performance of physicians working in the same hospital, suggesting that specific treatment habits of medical specialists were more decisive for differences in hospital performance than the hospital organization itself. Hoefnagels et al. (1989) and Van Harten et al. (1991) found evidence of large variations in treatment patterns for different medical specialties across regions and across partnerships of medical specialists. Although these studies used rather crude patient characteristics (elderly/non-elderly and gender), the unexplained differences in treatment were so large that the authors conjecture that local variations in practice style are likely to account for a substantial part of these differences.

Phelps (1992) estimated the aggregate annual welfare loss from cross-regional variations in hospitalization rates in the US to be in excess of $7 billion (about 1 percent of total annual health care expenditure), which would be considerably higher if within-regional variations and variation in other resource use was taken into account. Van Vliet (1988) estimated that in the Netherlands an 11 percent reduction in hospital days is possible if all hospitals would have a similar length-of-stay pattern as the hospitals with a significantly lower mean length of stay than expected on the basis of their patient population. So, in

7 Moreover, in the US the persistence of local practice patterns is sustained by the system of malpractice litigation. For under the US malpractice law 'local patterns of practice' are used as the standard to determine negligent provider behavior (Phelps 1992).

addition to the welfare loss resulting from the asymmetric distribution of information between patients and providers, a substantial welfare loss emanates from the lack of information about the most cost-effective modes of treatment among providers as well. Therefore, public programs for the assessment of clinical outcomes that distinguish appropriate from inappropriate practice patterns may improve providers' ability to perform the agency role. According to Phelps (1992), the estimated welfare gains from reduced variability exceed by one or two orders of magnitude the estimated costs of producing and disseminating information about proper methods of treating illness.

Third-party payor (principal) and provider (agent)

Third-party payors may not be sharing providers' and patients' preferences for fee-for-service payment because of its inflationary effect on health care expenditure. This brings us to the second agency problem in which third-party payors are the principals and providers are the agents. Here, the principals would be interested in designing an optimal incentive structure to encourage health care providers to economize on the use of medical care. Specifically, third-party payors would be interested in structuring incentives so to counteract supplier-induced demand (including supplier-induced moral hazard). But if demand for an individual provider's services is constrained by excess supply and fees are above marginal costs, fee-for-service payment provides incentives in the opposite direction.[8] Capitation payments and salaries do provide incentives to restrict utilization and to combine inputs more efficiently[9] but this might result in withholding or postponing necessary care or in shifting the risk to other providers (e.g. by referral). The primary reason for potential underprovision or risk shifting is that capitation payment and salaries usually do not account for patient heterogeneity. Thus fee-for-service may result in overprovision of care and capitation and salaries in underprovision of care, both generating a welfare loss. Newhouse (1992a) argues that a mixed mode of reimbursement (e.g. a blend between a capitation payment and a fee-for-service rate) can reduce this welfare loss. In addition, over- or underprovision could

8 In the context of the US health care system Brook and Kosecoff (1988, p. 153) conclude from the available empirical evidence that 'in the fee-for-service system perhaps as many as 40 percent of all hospitalizations are unnecessary because the therapy was unneeded or could have been provided on an outpatient basis [and] one-fifth to two-fifth of procedures performed may not be warranted because either they do not improve health status or they produce so little improvement that they are not worth the risks or cost.'

9 Hillman et al. (1989) found that among methods of paying physicians in HMOs, the use of capitation or salaries was associated with a significant lower rate of hospitalization (7.5% and 13.1% respectively) than the use of fee-for-service payment. However, the salary variable which they used in their multiple regression analysis is also likely to capture nonfinancial incentives to restrain utilization employed in staff-model HMOs.

be counteracted by appropriate nonfinancial incentives or by a system of monitoring provider behavior (effectuating a reduction of information asymmetry).

In different health care systems different third-party payors employing different incentives structures can be distinguished. A major distinction is that between government financing and public or private health insurance. When the government is the most important third-party payor health care is largely financed by taxes (for example in the UK, Denmark, Ireland, and Sweden). Since tax revenues generally fall short of government expenditures there is a strong pressure to control health care costs. Hence, it is not surprising that in tax-financed health care systems most health care institutions are state-owned and medical specialists are salaried. Such a top-down 'command and control' system presumably is the most effective way of controlling costs by rationing the supply of care, but offers little incentives for (dynamic) efficiency and for an effective matching of patient needs and care (Maynard 1994).[10] In other countries health insurance is the dominant method of health care financing (for example the US, Germany, France, the Netherlands and Belgium). One should distinguish between social insurance bodies and private health insurance companies. Social insurance bodies typically cover the costs of a legally defined package of benefits for a compulsorily insured population and are not at financial risk. Since social health insurance contributions are designated for health care only, there is less direct pressure to contain costs (the most important indirect pressure usually comes from employers who regularly pay a substantial part of their employees' social insurance contributions). In most countries where social health insurance is the primary source of health care finance, fee-for-service is the primary method of paying physicians. Because social insurance bodies are often not at risk for the medical expenses of their beneficiaries, they have little incentive to encourage providers to economize on the use of medical care. Therefore the government, often pushed by employers as indirect third-party payors, takes over that role by putting constraints on fees, manpower and the supply of services. Again, there is ample evidence that such constraints do not result in an efficient resource allocation.

Private health insurance is relatively important in the US, Germany and the Netherlands, where substantial parts of the population are not entitled to social health insurance (for non-catastrophic risks). The dominant form of private health insurance is cost reimbursement, which means that the full medical costs rather than fixed indemnities are covered (in contrast to other non-life

10 Criticisms about 'underfunding', inflexibility and an inefficient use of resources led to a major reform of the UK National Health Service, which started in 1991. The primary goal of the reform is to improve the efficiency of resource allocation by creating competition on the supply side of the market.

insurance lines).[11] Traditionally, most private health insurers simply reimburse the medical expenses of their subscribers without exerting any pressure on providers to contain costs or to improve efficiency. Since this conventional type of cost-based private health insurance is characterized by the absence of any contractual relation between insurers and providers, it is labeled by Enthoven (1994) as 'remote' third-party financing. Clearly, in a system of remote third-party financing and fee-for-service payment insurers do not have instruments to motivate providers to deliver cost-effective care. On the contrary, the conventional cost-based insurance system generates maximum incentives for supplier-induced demand and moral hazard. In addition, as pointed out by Weisbrod (1991), cost-based retrospective insurance provides an incentive to the research and development (R&D) sector to develop new medical technologies that enhance the quality of care, regardless of the effects on costs. Weisbrod conjectures that due to the lack of incentives to develop cost-reducing technologies, most advances in medical technology in recent decades have increased the means and variances of health care expenditures associated with various diseases, which can at least partially explain the expansion of insurance coverage. In turn, expanding insurance coverage encouraged the development of any technology with positive expected benefits. Hence, by an interactive process the demand for health insurance and demand for new technology have mutually reinforced each other, together accounting for a substantial part of the dramatic growth of health care expenditure since the second world war.[12] As far as the marginal costs of these insurance-induced innovations outweigh the associated marginal social benefits, cost-based private or public health insurance generates a dynamic moral hazard problem.

One may wonder why such a system could become the dominant form of private health insurance, given the considerable degree of competition in that market. The first explanation dates back to the origin of private health insurance at the beginning of this century. When the first private health insurance companies were established, the demand for private health insurance was small and their bargaining position vis à vis the medical profession was weak. Hence, the medical profession rather than the insurance companies set

11 As noted by Arrow (1963, p. 962) insurance against full costs in fact offer insurance against uncertainty as to the *price* of medical services, in addition to uncertainty about their *needs*. Like other forms of non-life insurance until the 1950s private health insurance also involved indemnification according to a fixed schedule. Due to the rapid rising health care prices during the 1960s, however, uncertainty about the appropriate level of indemnification substantially increased. Accordingly, insurance policies that covered the cost of medical care became the most popular (see Chapter 4).

12 Newhouse (1992b) roughly estimates that about half – and perhaps even more – of the 50-year increase in medical care expenditure in the US is attributable to technological change (including new types of physical capital and new diagnostic and therapeutic procedures).

the terms of the payment system. For instance, Blue Cross and Blue Shield, for a long time the dominant private health insurers in the US, were established, respectively, by hospitals associations and medical societies to warrant that private health insurers would not interfere in medical practice. Alternative insurance arrangements, such as prepaid group practices, which employed physicians and contracted with hospitals, were faced with effective boycotts, professional ostracism and denial of staff privileges (Enthoven 1988). Medical associations successfully extorted state authorities to adopt 'any willing provider' laws to prohibit selective contracting by insurance companies. In the Netherlands, already in 1912 the Dutch medical association (NMG) issued a binding resolution which stipulated that its members were not allowed to conclude contracts with private health insurance companies, in order to preserve their financially attractive private fee-for-service practice. So the fee-for-service system and the form of private health insurance were largely shaped according to the preferences of the medical profession. Although throughout the century private health insurance became more important, the conventional model of 'remote' third-party financing, free choice of providers and fee-for-service payment remained essentially the same.

Apart from the still powerful medical profession another important explanation for the success of the conventional system is that it was also advantageous for health insurers, as long as *all* insurers (or at least a vast majority) complied with its rules. As explained before, the conventional cost-based insurance system substantially contributed to an increase in both the level and variance of health care costs. As a consequence not only the (full) price of insurance rose but also the level of financial uncertainty and thus the utility of health insurance. The rising price and increasing utility have opposite effects on demand for health insurance. Presumably, the latter effect is considerably stronger since for several decades the per capita health care costs and the demand for health insurance coverage grow concurrently. Even if higher health care costs would not have expanded insurance coverage, it still would have raised the insurer's total premium income which, in turn, would have generated extra investment income. So, insurers can benefit substantially from a conventional cost-based health insurance system with fee-for-service payments when *all* of them refrain from using any incentives to encourage providers to economize on the use of medical care. However, here insurers face the well-known prisoner's dilemma because initiatives to reduce claim costs are potentially rewarding for each *individual* insurer. Notwithstanding this prisoner's dilemma, for a long time individual health insurers refrained from motivating providers to temper utilization. This is the more surprising since the degree of cooperation or collusion among private health insurers was typically very low. For several reasons, however, health insurers were able to escape from the prisoner's

dilemma. Firstly, individual insurers may be deterred from encouraging providers to reduce costs by the fact that other insurers may freely benefit from the induced change in provider behavior. In other words, potential free-rider behavior may persuade individual insurers to adopt the optimal strategy . Perhaps more important, the historically determined form of 'remote' health insurance itself may preclude effective cost control activities by insurers. In the absence of any contractual relation between insurer and provider, insurers restricted their activities on the 'pure' insurance function, pooling of risks. In such a health insurance market, policies are easy to imitate, require limited investment and can be sold all over the country (see Chapter 5). The resulting market structure is characterized by a low level of market concentration, low barriers to entry and limited economies of scale. The regional or local market share of individual health insurers is too small to provide them with sufficient bargaining power to put pressure on health care providers. Thus, once established, a 'remote' health insurance system tend to be self-sustaining. This is the more so, since in due course private health insurance companies accumulate substantial expertise in underwriting risk but not in purchasing, organizing or managing medical care. To built up new expertise would require considerable investments while the prevailing profit margins are rather low. In addition, for a long time the state of information technology did not allow for a cost-effective review of medical claims. Moreover, the short-term effect of the rapidly advancing information technology was that insurers could make more profit by cream skimming than by managing medical care.

Of course, insurers have some collective interest in keeping fee levels affordable, because the demand for health insurance coverage will eventually fall if health care becomes too expensive. Since the patient's payment to the insurer is independent of the provider's fee, the provider has no incentive to price at cost. In fact, in such a case there is an incentive for the provider to charge an infinite fee (Newhouse 1992a). This explains why in countries with a substantial private health insurance market insurers collectively negotiate administrative rules with providers for setting reimbursement rates.

A final explanation for the success and persistence of the 'remote' insurance system is the totally unrestricted choice of provider for the patient. In the presence of insurance against the full cost of medical care the patient's premium contribution is independent of the choice of provider. If the patient chooses an inefficient provider, the financial consequences are spread among all other subscribers of the same insurer. Although a system of unrestricted choice of provider is costly because it cannot discriminate between efficient and inefficient providers, for individual patients the costs are diffuse while the benefits of free choice are clear. Thus, the fact that free choice of provider is inherent to the conventional cost-based insurance system may explain the

system's popularity and its immunity to change. Freedom of choice equips both providers and conventional insurers with a strong marketing argument against alternative insurance arrangements with limited choice of providers (such as prepaid group practices).

In the long run, however, the prospects for the conventional health insurance system are bleak. The rising cost of medical care make buyers of health insurance more sensitive to price differences and make utilization controls more rewarding. In the most important US private health insurance market, employers, as collective purchasers of health insurance on behalf of their employees, exert increasing pressure on health insurers to control cost. In 1982, California was the first state in the US to drop the any willing provider law which prohibited selective contracting. During the following decade most of the other states followed. The increasing cost-consciousness of employers and the expanded legal opportunities to contract selectively with providers heralded a rapid decline of the conventional cost-based type of health insurance. The share of conventional health insurance without utilization management in the employer-sponsored group health insurance market dropped from 41 percent in 1987 to only 8 percent in 1991 (Gabel et al. 1989, Sullivan et al. 1992). Most former conventional health insurers attempt to restrain utilization by employing various utilization management activities, such as preadmission certification, concurrent utilization review, mandatory second opinion for surgery, case management for large claims and for mental health care, incentives for ambulatory surgery and penalties for nonurgent emergency care. There is some empirical evidence that utilization management activities reduce utilization and that this reduction is more than enough to cover the costs of implementing and administering such programs, although their effect on health status is unknown (Khandker and Manning 1992). However, conventional managed care plans (or conventional insurance with utilization management) seem to be less effective than the fast growing number of limited provider plans, such as Preferred Provider Organizations (PPOs) and especially Health Maintenance Organizations (HMOs). While the market share in employer-sponsored group health insurance of conventional managed care plans is declining since 1990, the market share of HMOs steadily increased from 16 in 1987 to 25 percent in 1991 (Gabel et al. 1989, Sullivan et al. 1992).

In the oldest type of HMO, the prepaid group practice (PGP), the functions of health insurance and health care delivery are fully integrated. Well-managed PGPs have proven to be able to offer an effective combination of financial and nonfinancial incentives to economize on the use of medical care without lowering its quality.[13] In the only large scale randomized controlled health insurance experiment, which was conducted by the RAND corporation, evidence was found of 39 percent fewer hospital admissions and 28 percent

lower estimated expenditures of the group of individuals randomly assigned to the HMO as compared to those assigned to the fee-for-service system (Newhouse et al. 1993). Moreover, for individuals who entered the experiment in good health, there were no significant differences in a large number of health outcome measures at the end of the experiment. Only low-income people in poor health at enrollment in the experiment may have had worse outcomes but, according to the RAND research group, 'the evidence supporting that view is thin' (Newhouse et al. 1993, p. 346). By contrast, high-income people in poor health had better outcomes at the HMOs than those in the fee-for-service system. Individuals who selected the HMO were on average equally satisfied as individuals in the fee-for-service system, but for those randomly assigned to the HMO patient satisfaction was less, which was largely caused by the restricted choice of providers. The latter observation may partially explain why prepaid group practices have not (yet) become the dominant type of health insurer.[14] Although the RAND experiment studied only a single, well-established PGP, its results are corroborated by a large number of other well-performed comparative studies in PGPs and fee-for-service settings (for extensive reviews of these studies, see Cunningham and Williamson 1980, Luft 1981, Schut 1986, Schut and Casparie 1987). In an analysis of the recent literature, Miller and Luft (1994) found that HMOs still exhibit significantly lower utilization of hospital services and of more expensive or discretionary procedures and tests, more physician office visits and use of preventive services and equivalent or better quality of care than conventional insurance plans. In contrast to earlier findings, they found no evidence that prepaid-group-practice type HMOs performed better than other HMO-types, such as the Individual Practice Association (IPA). They suggest that a plausible reason for this is that 'during the last decade, IPAs have tended to implement far more utilization management controls and reimbursement (dis)incentives to control physician behavior than in the past, and more than in PGPs [...] to compensate for their arm's length relationship with physicians, and to respond to increased com-

13 Determinants of the success of well-managed prepaid group practices are prospective payment, joint responsibility of a selected group of providers for the reputation and financial viability of the organization, emphasis on primary care practitioners as gatekeepers to expensive and specialized services, more emphasis on preventive health care, education and feedback about appropriate treatment, utilization review, a multidisciplinary setting which facilitates mutual consultation, cooperation and continuity of care, and competition with other insurance plans (Luft 1981, Fox and Heinen 1987).

14 Other impediments for a more rapid growth of prepaid group practices are the unfavorable tax system (Pauly 1986) and the substantial investments and scarce skills needed to set up a well-managed prepaid group practice. Due to the tax system savings from HMOs and other managed care plans are usually not reflected in lower premiums but in broader benefits and reduced cost sharing.

petition from other managed care plans' (Miller and Luft 1994, p. 1518). Empirical studies show that the removal of the ban on selective contracting in California and the subsequent rise of PPOs, HMOs and other managed care plans, had a dramatic impact on the performance of the hospital market. In the conventional cost-based health insurance environment which prevailed until 1982, hospitals were competing for patients by attracting physicians by means of technically sophisticated services, modern facilities and other amenities (Robinson and Luft 1985). Hence, nonprice competition among hospitals was characterized by a 'medical arms race', which resulted in about 17 percent higher costs and 14 percent higher revenues for hospitals in highly competitive (or less concentrated) markets than in less competitive (or highly concentrated) markets (Zwanziger et al. 1994). The introduction of selective contracting by insurers and the state government (on behalf of Medicaid beneficiaries) induced a reversal in hospital behavior. Through their ability to channel subscribers to selected providers, insurers and the state government were able to negotiate price concessions from hospitals, which forced hospitals to reduce costs (Robinson and Luft 1988, Zwanziger and Melnick 1988, Mennemeyer and Olinger 1989, Robinson and Phibbs 1989, Melnick et al. 1992). An individual health plan's ability to negotiate lower prices increased with the share of its subscribers in the total number of a hospital's patients (Melnick et al. 1992). Robinson (1991) found that the rate of hospital cost inflation was significantly negatively related to HMO market penetration, suggesting that HMOs can exert indirect effects on hospital behavior by stimulating more price-competitive behavior on the part of other health insurers. As could be expected, selective contracting was found to be more effective in more competitive hospital markets. During the period 1982-1990, selective contracting effectuated a 13 percent reduction in hospital costs and 18 percent reduction in hospital revenues in highly competitive relative to less competitive areas (Zwanziger et al. 1994). So, by 1990 hospitals in highly competitive markets still had about 4 percent higher cost but about 4 percent lower revenues than their counterparts in less competitive areas. Nine years after the introduction of selective contracting in California the proportion of per capita income Californians spend on hospital care declined, while it continued to increase for the nation as a whole. The hospital cost savings in California stem from a reduction in admission rates, lower average length of stay and from reductions in the cost per adjusted discharge and the cost per adjusted day (which indicate increased provider efficiency). As a result, there is a widening gap between the proportion of per capita income spend on hospital care in California and in the US. Zwanziger et al. (1994) argue that if implemented on a national scale, selective contracting could be expected to reduce the growth of hospital costs even more rapidly than occurred in California.

The rise of prospective payment at the expense of retrospective payment in health insurance is also likely to affect the rate and direction of technological change in health care. Weisbrod (1991) expects that prospective payment will result in a diversion of research funds from cost-increasing surgical techniques and halfway technologies toward lower-cost higher technologies, including minimally invasive devices and pharmaceuticals that substitute for surgery.[15] Empirical research about the effect of prospective payment on the type and pace of innovation in medical care is still scanty. The limited empirical evidence so far indicates that the rate of diffusion of a number of existing technologies is responsive to the extent and type of insurance coverage, but the rate of introduction of new technologies appears to be the same or only slightly lower in HMOs than in the fee-for-service system (Weisbrod 1991). Besides, the longer-term effect of a prospective-payment insurance system on the *development* of new technologies is unknown, although Weisbrod (1991) refers to some recent cases in which research on new technologies was halted because of its presumed insufficient cost-effectiveness. Gelijns and Rosenberg (1994) have found preliminary evidence that both the drug and device industries are shifting their R&D priorities toward the development of cost-reducing innovations.

In prospectively paid vertically integrated organizations of providers and insurers, such as HMOs, physicians have a dual and possibly conflicting responsibility to act as agents for the patient and for the (financial) interest of the organization. If competition intensifies and HMO physicians are placed individually at risk for referrals, incentives for withholding care may be too strong (Hillman et al. 1989, Mechanic 1994). Blomqvist (1991) provides theoretical arguments that the optimal solution to the double agency problem may be one in which cost containment is accomplished through some HMO-type contract structure, while the patients' interests are protected through carefully designed liability rules in combination with improved methods of quality monitoring and control. When quality is difficult to monitor for consumers and third-party payors, a prospective-payment insurance system provides incentives, at the margin, to adopt new technologies that reduce cost rather than improve quality (Weisbrod 1991). The need to counteract such incentives for biased technological change constitutes an additional argument for publicly funded programs for quality assessment.

15 Weisbrod (1991) conjectures that the typical intertemporal cost function associated with a particular disease might have an inverted U-shape: starting with a low-cost 'nontechnology' stage in which diseases are poorly understood, involving caring rather than curing, then proceeding with a high-cost 'halfway technology' stage in which technology adjusts to disease or postpones death, and finally reaching a relatively inexpensive 'high technology' stage, in which a genuine understanding of disease mechanisms make effective prevention and treatment possible. The evolution of the treatment of polio is cited as an outstanding example of the inverted-U-shaped cost function.

Insurer (principal) and subscriber (agent)

The problem of moral hazard or insurance-induced overconsumption arises because insurers (or other third-party payors) usually cannot monitor the behavior of their subscribers. A rather crude way to reduce the moral hazard problem is quantity rationing. This is the dominant strategy in health care systems in which the government is the main third-party payor and can control the supply of medical manpower and facilities. There is no evidence that quantity rationing will selectively reduce inappropriate care. Rather, empirical findings indicate that the effect of rationing may be nonselective with regard to the appropriateness of care (Chassin et al. 1987, Newhouse et al. 1993, p. 174-176). Hence, the net welfare effects of quantity rationing are uncertain.

In the case of social and private health insurance the dominant strategy to counteract moral hazard is cost sharing. The RAND experiment demonstrated that cost sharing can substantially reduce the use of medical services (Newhouse et al. 1993). Utilization was found to be inversely related to the degree of coinsurance, but when the coinsurance rate increases its marginal effect on use declines. The reduced use under the cost-sharing plans had little or no net adverse effect on health for the average nonelderly person (people over 65 years old were not included in the experiment). However, the health status of low-income people in poor health (about 6 percent of the population) was adversely affected by cost sharing. Given that health status was not affected by cost sharing, it was surprising that cost sharing reduced the use of inappropriate and appropriate care in about the same way. The most likely explanation for this is that the negative effects of a reduction of appropriate care were offset by a reduction of iatrogenic disease due to inappropriate care (Newhouse et al. 1993).

From a welfare standpoint, the optimal insurance policy (or the optimal type and degree of cost sharing) is the one that best trades off the welfare gain from risk reduction and the welfare loss from excess spending. Based on the results of the RAND-experiment Newhouse et al. (1993, p. 139) calculate that an optimal insurance contract has an individual deductible of about $250, 25 percent coinsurance rate, and a cap of about $1500 on out-of-pocket expense (in 1991 dollars).[16] Because cost sharing has a negative impact on health of the poor sick, the RAND research group suggests that they may be exempted from cost sharing. In addition, they offer good arguments for a similar exception for the chronically ill, because otherwise they would have to pay substantial amounts of cost sharing each year.

16 Calculations are based on the assumptions of no externalities and constant absolute risk aversion. Since poor people tend to be more risk averse than wealthier people (Van de Ven and Van Praag 1980) the optimal deductible and coinsurance rate for this group may be lower.

It should be noticed that the findings of the RAND experiment on the optimal insurance contract applies to the conventional 'unmanaged' type of health insurance in the context of a fee-for-service system. In other words, the degree of cost sharing is optimal in an environment in which there are no other incentives to reduce moral hazard. In managed care plans, and in HMOs in particular, other incentives are used to counteract overutilization. For instance, an effective gatekeeper role of primary care practitioners, consumer education and better preventive care may effectively limit the scope for moral hazard. Hence, the optimal extent of cost sharing is likely to be lower in a managed care system than in a fee-for-service system. Moreover, the incentives to reduce utilization employed in HMOs may be more effective than cost sharing in a fee-for-service setting, given the evidence from the RAND experiment that the proportion of inappropriate hospitalizations was less in the HMO than in the fee-for-service system (Newhouse et al. 1993, p. 302-303). Thus, while the HMO did discriminate between appropriate and inappropriate care, cost sharing did not.

Furthermore, as noted by Newhouse et al. (1993, p. 369-371), the effect of a large-scale introduction of cost sharing is likely to be smaller than found in the RAND-experiment, because it is not known to what extent physicians would induce new demand to offset the effect of cost sharing. A large scale introduction of HMOs, however, is less likely to suffer from a similar offsetting effect, since HMOs embody an incentive structure to counteract supplier-induced demand.

Insurer (principal) and applicant (agent)

To break-even insurers have to charge appropriate premiums for their insurance policies. That is to say, they have to charge a price which is at least equal to the expected claim costs plus a loading fee to cover administrative and other expenses. A potential problem arises when applicants for insurance policies can estimate their expected costs (or risk) more accurately than the insurer. For in this case applicants may select policies which are priced below their expected costs and the insurer may go bankrupt. Such adverse selection may result in a high failure rate of health insurance companies. Insurers can counteract adverse selection by trying to obtain information about the applicants' risk, by differentiating the level of coverage to prompt applicants to signal their risk, or by excluding some risks from coverage (see Chapter 4). These strategies may result in unaffordable high premiums and partial or even absent coverage for specific risk groups. Due to this partial market failure the potential social welfare gain from risk protection cannot be fully realized. The US offers the most prominent example of individual health insurance market failure, since in

1992 about 37 million people, accounting for 17 percent of the nonelderly population, were without health insurance (Rowland et al. 1994).

The government can avoid the adverse selection induced welfare loss from inadequate risk protection by making health insurance compulsory and by prohibiting competition among third-party payors. In the presence of mandatory health insurance and a single payer (e.g. the government or a public insurance fund) low-risk individuals are prevented from opting out of a pooling equilibrium.[17] But compulsion and absence of competition generate other welfare losses.[18]

Alternative solutions are proposed which seek to regulate competition among insurers in such a way as to deal with adverse selection while maintaining adequate risk protection for all risk groups. The central idea is to require insurers to offer adequate coverage to all applicants, irrespective of risk, while keeping premiums affordable by means of some system to reallocate premium income or to redistribute purchasing power for medical care. Specifically, two approaches can be distinguished to realize affordable premium levels: either a combination of premium regulation and *ex ante* compensation to insurers for providing coverage to high-risk groups, or a system of risk-adjusted subsidies (or vouchers) to individuals to enable them to buy sufficient coverage (De Bruine and Lintsen 1988).

The combination of premium regulation and risk-adjusted capitation payments to insurers from a central fund is an essential element of market-oriented health care reforms in a number of countries. In the Dutch sickness funds sector such a system is gradually being implemented since 1993. A key problem is that any form of premium regulation may motivate insurers to practice *preferred* risk selection. That is, regulated premiums (or premium replacing contributions) may provide insurers with incentives to encourage (deter) individuals whose expected claim costs are considerably lower (higher) than the determined premium or contribution. If the insurer can better appraise the riskiness of applicants than the regulator, premium regulation may create another principal-agent problem, in which the regulator is the principal and the insurer is the agent. Although research indicates that workable solutions to overcome this principal-agent problem are technically possible, there is still a long way to go from theory to practice (Newhouse 1994, Van de Ven et al. 1994b).

17 Notice, however, that adverse selection may occur at the provider level if competition among providers is allowed and if their remuneration is not sufficiently adjusted for the risk of their patients, as is the case with the NHS-reforms in Britain (Scheffler 1989)

18 If preferences are sufficiently similar (which would be the case if individuals would be equally risk averse), the welfare loss from compulsion may be minimal (Barr 1992).

1.2.2 Externalities

For an efficient organization of the health care system the four above-mentioned principal-agent problems have to be addressed simultaneously. But that is not the entire story. An efficient health care market also has to internalize important externalities in the demand for health care. Firstly, for some types of medical care there is a divergence between social and private benefits or costs of consumption. For instance, immunization for communicable diseases yields a positive utility for all non-immunized individuals. Especially in case of effective preventive care positive externalities make a strong case for collective action (Ghez and Grossman 1980). Depending on the type of preventive care different methods of financing are appropriate to encourage the use of effective preventive care. For instance, there are strong arguments for public financing of collective prevention and comprehensive individual preventive care programs (Schut and Lapré 1988, Van Kemenade en Schut 1992). Next to the externality argument there are two other reasons why the demand for preventive care is likely to be less than socially optimal, which provide an additional justification for government action. One reason is that moral hazard results in a substitution away from preventive care toward curative care (Pauly 1974).[19] Another reason for insufficient demand for preventive care is that the gains from preventive care are uncertain and occur in the (far) future, while the costs (in terms of money and time) have to be made in advance. By contrast, curative care often offers a short-term and more certain gain. Kahneman and Tversky (1979) found that individuals' aversion toward risk is not symmetric, since they seem to prefer certain to uncertain gains but prefer uncertain to certain losses. Therefore, the stronger the individual's asymmetry with respect to uncertainty, the less likely the person will demand preventive care (Fuchs 1982). Indeed, results from the RAND experiment point out that even in the conventional insurance plan without cost sharing the amount of preventive care consumed by (or offered to) the participants was, except for well-child care examinations, much less than what was recommended as the standard (Newhouse et al. 1993, p. 176-180). In addition, the experiment showed that the number of preventive visits was significantly higher (about 50%) in the HMO than in the free fee-for-service plan, which indicates that the HMO's active encouragement of the use of preventive services indeed makes a difference (Newhouse et al. 1993, p. 273).

A second important externality in health care is the presence of altruistic preferences. Altruistic preferences seem to be particularly strong with regard to

19 Insurance-induced substitution of curative for preventive care does not only constitute a static but also a dynamic moral hazard problem. Weisbrod (1991, p. 540) argues that cost-based health insurance provides incentives to search for new technologies to treat the ill rather than to prevent their illness.

the demand for medical care. Most people seem to be unwilling to deny effective medical care to other members of society.[20] Thus, social concern generates an altruistic externality which calls for public subsidization. Since altruistic preferences appear to be stronger for health care than for most other commodities, subsidies have to be specifically aimed at the use of health services. However, it should be noticed that externalities by themselves need not imply any difference in the operation of the market once appropriate subsidies have been determined and paid.

1.2.3 Managed (or regulated) competition: the sheep with five legs?

Trying to find a solution for both the four principal-agent problems and the externality problem is like looking for a sheep with five legs. The task is especially complicated because these problems are not independent from each other. An adequate solution to one of these problems may well exacerbate another. In different health care systems different problems are addressed but so far in none of these systems all of these problems are addressed simultaneously.

The complexity of the problem is reflected by the lack of descriptive theoretical models of health care and health insurance markets that integrate different informational asymmetries. Recently, Blomqvist (1991) developed a highly simplified model which combines informational asymmetries between doctors and patients and between doctors and health insurers. But a theoretical model of a competitive insurance market that treats moral hazard and adverse selection simultaneously is still lacking (Dionne and Doherty 1992, Arnott 1992). This is ascribed to the fact that 'theorists have been deterred by the inherent complexity and messiness of the problem' (Arnott 1992, p. 355).

A less formal, normative approach to tackle the intertwined information problems in health care markets was developed by Enthoven (1978). Building on an earlier proposal by Fleming about the introduction of national health insurance with *structured* competition among health insurers, Enthoven (1978) developed a national health insurance proposal based on *regulated* competition in the private sector, which he labeled 'Consumer Choice Health Plan' (CCHP). Essentially, CCHP is a system of competing prospectively paid limited provider plans which operate within the context of a government-instituted incentive structure which gives all parties a stake in an efficient provision of medical care. To create 'socially desirable competition' health plans should observe the

20 Van den Berg et al. (1986) found evidence of the presence of strong altruistic preferences for medical care consumption in the Netherlands. From data of the 1985 Health Interview Survey by the Netherlands Central Bureau of Statistics (CBS) they conclude that 78% of the representative sample population fully disagreed with the statement that 'people with a less favorable health status should pay more than people in good health' (9% partially agreed, only 3% fully agreed and 10% had no opinion).

following rules to obtain a required qualification by the government. Each health plan must participate in a periodic open enrollment, run by an impartial regulatory agency, in which it must accept all enrollees who choose it, without regard to age, sex or any other characteristic associated with health risk. Qualified health plans have to offer a legally defined standardized basic benefits package. Each qualified plan can set its own rates but must charge the same premium to all persons in the same actuarial category enrolled for the same benefits in the same area (such a rating system is known as community rating by actuarial class). A redistributive system of government subsidies has to be instituted to guarantee universal access. To prevent risk selection by the health plan, subsidies (in the form of earmarked tax credits or vouchers) would be based on the subscriber's actuarial cost (that is the expected cost of covered benefits for the actuarial category the subscriber belongs to). Tax credits have to be equal to 60 percent of family's actuarial cost, so subscribers have to pay the difference in cost which is reflected in the community-rated premium and out-of-pocket outlays (deductibles, copayments and coinsurance). Out-of-pocket costs must not exceed an annual limit to be specified by the government. Each plan is permitted to contract with a selected group of providers and to operate own health care facilities. The government is responsible for the specification of a standardized basic benefit package and for the development and funding of programs to provide meaningful information on the features and merits of alternative health plans. Eventually, informed consumer choice should motivate insurers to contract with efficient multispecialty provider groups or to form integrated provider-insurer organizations. By fundamentally altering the incentive structure, CCHP implicitly deal with the four agency problems and the externality problem. The problems of supplier-induced demand and supplier-induced moral hazard are addressed by providing consumers with incentives to select efficient third-party purchasers, which in turn provides these third parties with incentives to organize or contract with efficient managed care plans, such as HMOs. Informed consumer choice is facilitated by the legal standardization of the basic benefit package, the government-run enrollment process and publicly funded programs to gather and disseminate reliable and understandable information about the performance of the existing health plans. The third agency problem (moral hazard) is addressed by permitting cost sharing up to a certain limit. Moreover, health plans have an incentive to reduce moral hazard by actively encouraging effective preventive care. The problem of adverse selection induced welfare loss is partially addressed by requiring insurers (or health plans) to offer coverage for legally defined basic benefits to all applicants irrespective of health risk and by allowing them to differentiate premiums according to the subscriber's actuarial class while furnishing subscribers with a risk-adjusted tax-credit or

voucher. Altruistic externalities are internalized by the requirement for qualified health plans to accept all applicants irrespective of health status and by the redistributive system of tax-credits and vouchers.

In subsequent years Enthoven replaced his concept of *regulated* competition by that of *managed* competition to stress the required flexibility of both rules and regulatory agencies (Enthoven 1988, p. 28). Instead of the government, Enthoven introduced new regulatory agencies, called 'sponsors' or 'health insurance purchasing cooperatives' that have to manage competition among health plans. These purchasing cooperatives are active collective agents on the demand side which are assigned quite a number of tasks to create and maintain appropriate incentives for competing health plans: they have to structure the enrollment process, to enforce standard coverage contracts and equitable rules of coverage, to negotiate community-rated premiums, to administer a risk-adjusted payment system to compensate health plans and to assess health plan's performance in terms of quality, service and price. In fact, the health purchasing cooperative is a way to achieve sufficient bargaining power at the demand side and to realize economies of scale in information gathering to overcome the pervasive information problems in health care markets. Purchasing cooperatives do not purchase health care themselves, but are pure intermediaries between individual consumers and health plans. Rather than competing cooperatives, Enthoven (1994) favors a model of monopolistic cooperatives with a territorial franchise, to avoid problems of risk-selection and to minimize transaction costs. Given the key role of purchasing cooperatives they should be strictly monitored and insulated from special interests. Next to the purchasing cooperatives, an independent National Health Board should set the general rules of the system, such as the specification of the basic benefit package, the development of a risk-adjusted payment system and the definition of standards for data collection and reporting to establish a national data system for evaluation of health outcomes. Enthoven's concept of managed competition among managed care organizations has inspired health care reforms in an increasing number of countries throughout the world (Van de Ven et al. 1994a). In each of these countries the concept is adapted to the specific features of the health care system, the institutional framework and the underlying value system of society. The Dutch health care reform, as proposed by the Dekker Committee in 1987 and subsequently endorsed by the government, was largely based on the original concept of *regulated* competition. Hence, in the Dutch health reform the role of purchasing cooperatives is largely entrusted with the government or the Sickness Fund Council (see Chapter 2).

Although the managed competition concept may be a theoretically sound, the actual effect of a systemwide introduction is uncertain, since it has not (yet) been implemented in practice. But, as argued by Enthoven (1993b, p. 45), it is

important to realize that 'managed competition is not blind faith in an untested economic theory [...] All of the pieces of the managed care/managed competition model are in actual successful practice somewhere. The challenge is to put these best practices together into one complete managed competition system.' There is substantial evidence that HMOs and other types of managed care can cut costs while maintaining quality. The introduction of another piece of the managed competition model, selective contracting, in California accomplished a reduction in both the cost and price of hospital services, especially in highly competitive hospital markets. Finally, there is preliminary evidence of a public employees' purchasing cooperative in California (CalPERS) effectively using its bargaining power to negotiate substantially lower annual premium increases than the Californian or national average.[21]

Notwithstanding the favorable experience with separate pieces of the managed competition concept, its systemwide introduction is not likely to be successful unless a number of major technical problems can be effectively addressed. First of all, an adequate risk-adjusted capitation payment for health insurers or other third-party purchasers have to be developed, although preliminary results from research are promising (Van de Ven et al. 1994b). A second prerequisite is a systematic gathering and evaluation of process and outcome data to assess quality of care of different providers and to disseminate understandable information about differences in quality of care to the general public. Thirdly, standardized product definitions have to be developed and associated real cost prices have to be calculated to provide appropriate signals for market-based resource allocation. The above three problems have in common that they require advanced information technology, available at reasonable costs. Until recently, however, the state of information technology was insufficient and the costs were prohibitively high. As information technology continues to proceed, the feasibility of managed competition in health care will increase, because the transaction costs of overcoming the information problems will decrease.

In addition to these technical problems, major institutional problems have to addressed, such as the establishment of effective purchasing cooperatives and the potential anti-competitive conduct of providers and insurers. The presence of several managed care organizations in a region does not guarantee workable competition. As pointed out by Enthoven (1988, p. 97) 'the market may be segmented, or a pattern of 'live and let live' may evolve.' The problem may be

21 The US General Accounting Office (GAO 1993) cautions that it is too early to conclude that the CalPERS' favorable cost-containment record demonstrates the potential of managed competition to control national health spending while maintaining quality. This is because the program has only recently adopted some, but not all, features of managed competition (for example, CalPERS collects little information on the quality of care and health outcomes that could be used to assess the performance of different health plans).

especially pronounced in an environment such as the Dutch health care system where for a long time competition was precluded and cooperation was actively supported by the government (see Chapter 5 and 6).
Even if these technical and institutional problems could be successfully addressed, the concept of managed competition is not a panacea. As argued before, the concept is less well-suited for comprehensive preventive care programs. According to Van der Grinten (1989) the managed competition model may also be less appropriate for mental health care, because for most mental health services there may be not enough (potential) customers who are willing or able to judge differences in quality, service and price. More generally, Van de Ven and Schut (1994) argue that there are strong efficiency arguments to exclude catastrophic risks from a (regulated) competitive regime. For such risks an effective pressure from the demand side may be lacking, due to high-risk users' inability to make choices and low-risk users' myopia, resulting in inefficient resource allocation. Hence, for the financing of different types of care different regulatory regimes may be appropriate.

1.3 Equity

According to the utilitarian distribution principle public subsidization of medical care consumption should only compensate for altruistic externalities. Of course, societies may well opt for other distribution principles entailing other levels of (in)equity, such as egalitarian, equal access and libertarian principles (De Jong and Rutten 1983).
Wagstaff and Van Doorslaer et al. (1992) argue that among the public, health professions and policy-makers in many countries the greatest support is for the egalitarian notion that health care ought to be distributed according to need and financed according to ability to pay. From a cross-country comparative study they conclude that health care financing tend to be most egalitarian in primarily tax-financed systems (Denmark, Ireland, Portugal and the UK), less egalitarian in countries with a large social health insurance system (France, the Netherlands and Spain) and least in countries with a large private health insurance market (Switzerland and the US). Surprisingly, however, they found that the level of equity in health care finance does not correspond very well to the level of equity in health care delivery (Van Doorslaer and Wagstaff et al. 1992). Defining equity as equal treatment for equal need (known as 'horizontal' equity), they conclude from an eight-country comparative study that health care delivery seems to be more egalitarian in some countries which do not have universal and comprehensive public cover (Switzerland and the Netherlands) than in countries with a relatively egalitarian (or progressive) system of health

care finance, such as Denmark, Spain and the UK. This suggests that in countries where rich people pay more, they may also receive more care.[22]
So to achieve an egalitarian distribution in both health care finance and delivery, public subsidization of lower-income groups may not be sufficient. It may also require more public attention for structural forms of prevention and for those in most need of care, such as the elderly, the mentally handicapped and the chronically ill (De Jong and Rutten 1983, p. 1094).
In a competitive health care market some of these vulnerable groups are likely to receive insufficient or inferior care, even when competition occurs in the context of a government-instituted redistributive financing system which makes people's health care contributions dependent on their ability to pay (Van de Ven en Schut 1994). Hence, competition, even in a well-managed or regulated form, may not be a suitable way to allocate resources to catastrophic risk groups.

1.4 Cost containment

The steadily increasing health care expenditure is a continuous source of political distress. In most countries a considerable part of health care is financed by public means (either taxes or social insurance contributions). When health care is predominantly financed by taxes, rising health care expenditure may result either in crowding out other government expenditure, or in rising taxes or increasing budget deficits. None of these outcomes are popular among politicians, which may explain the considerable pressure in countries with a tax-financed health care system to control health care expenditures by rationing care. When health care is predominantly financed out of social insurance contributions, pressure on government to control expenditure is indirect. Since employers typically pay part of the social insurance contributions they put pressure on government to control public health care expenditure in order to keep down labor costs. Moreover, in the presence of substantial structural unemployment, which is the typical situation in most European countries in the 1980s and 1990s, governments are under constant pressure to constrain labor costs. This is especially true in countries with an open economy, such as the Netherlands, where internationally competitive prices (including labor costs) are of crucial importance to the economy.

22 Moreover, as noted by Aaron (1992), a progressive health care financing system does not necessarily imply that the overall system of taxes and other income transfers is progressive. In fact, the more regressive the overall income distribution, the more resources the better-off can spend on health services, so the more progressive (or egalitarian) the health care financing system may be.

1.4.1 Why health care expenditure will continue to grow

Despite political pressure to control (public) health care expenditure, there are several reasons why total health care spending is expected to consume an increasing part of Gross National Product (GNP). Firstly, probably the most prominent driving force behind rising health care expenditure is *technological change* (Newhouse 1992b). In the past, as explained before, the demand for cost-based social and private insurance coverage and that for medical technology were mutually reinforcing. Although competitive prospective-payment insurance and medical technology assessment may shift the direction of medical research and development from interventions that are primarily focused on better clinical results to those that emphasize cost-effectiveness, the aggregate effect may still be expenditure increasing. The reason why cost-reducing technologies per patient treatment tend to be cost increasing in the aggregate is their expanded application to more cases and a wider population than the original technology. Gelijns and Rosenberg (1994) provide illustrative examples of such innovations.

A second important cause of the persistent rise of health care expenditure is the unbalanced growth in productivity in the manufacturing and in the personal-service sector of the economy (Baumol 1967). Baumol argues that the uneven growth in productivity stems from the role of labor in manufacturing and in personal services like health care, education, police and performing arts. In the case of manufacturing labor is primarily an input factor to produce output, whereas in the case of personal services labor itself is the end product. When labor is an end product, the level of quality tends to be highly correlated with the amount of labor involved. As a consequence, manufacturing and personal service sectors display a disparate performance in labor productivity over time. While technological innovation and mass production result in a substantial cumulative rise in output per man hour in manufacturing sectors, labor productivity in personal services can often increase only marginally. Baumol contends that in the long run, wages and salaries throughout the economy tend to go up and down together, for otherwise the activity whose wage rate falls seriously behind will tend to lose its labor force. With a dissimilar increase in labor productivity and a similar increase in wages, personal services must grow ever more expensive than manufactured goods as time goes on. Baumol has labeled this phenomenon *the cost disease of the personal services*. For personal services whose demands are not highly inelastic (e.g. crafts like plumbing, house-painting and carpentry) the cost disease causes the level of output and quality to decline. For personal services with a highly inelastic demand, such as health care, the relative increase in price may result in capturing an increasing share of national income. To prevent quality of health services from declining the health care budget must grow faster than the general rate of inflation.

A rising share of GNP devoted to health care should not be a problem if all wages were to be raised according to the *average* growth of productivity in the economy. Then the extra revenues in the manufacturing sector (that is the difference between productivity gain and wage increase) can be employed to maintain the same level of quality (or labor input) in the service sector. However, if wages in the manufacturing sector are raised at the same rate as the increase in productivity in that sector (which may be enforced by well-organized unions) and the wages in the service sector are adjusted accordingly, then the quality of services is likely to deteriorate because there are not enough revenues to employ the same labor force in that sector. So in order to maintain the quality of personal services either self-imposed or government-imposed restraints on wage increases in the manufacturing sectors are indispensable. Hence, the cost disease of personal services does not necessarily imply a decline in quantity and quality of those services. In fact, increasing productivity means that society can afford more of all goods and services. In an economy with unbalanced productivity gains in different sectors, balanced growth can be achieved by some sacrifice in the rate of growth of the most progressively productive sectors (Baumol 1967). However, such balanced growth is likely to be achieved only if government actively intervenes to transfer productivity gains from one sector to another.

In the Netherlands empirical evidence is found of the relevance of Baumol's cost disease for the health services sector. During the period 1950-1990 the average annual growth rate of labor productivity in Dutch manufacturing is approximately 5%, whereas the average rate of growth of labor productivity in health care, as measured by physical output indicators, is very modest and hardly different from zero (Zant 1992a). Only in the hospital and pharmaceutical sector the growth of labor productivity is somewhat higher, exceeding 1% (Zant 1992b, Van der Zwan et al. 1994). Despite the modest growth of labor productivity the price inflation in health care was only about 0.5% higher than general price inflation in the decade since 1982 (Van der Zwan et al. 1993, p. 34). The small difference was caused by the government-imposed restraints on wages and salaries of health care personnel during the period 1982-1988, which resulted in a two percentage points lower annual increase of the wage level in the health care sector than in the commercial sector of the Dutch economy. As could have been predicted, the lagging behind of wages in the health care sector resulted in an increasing tension and excess demand on the labor market for health care personnel. To alleviate these tensions, government was forced to raise wages of health care personnel at higher or at least equal rates than those in the commercial sector. Partly as a result of this, health care expenditures as percentage of GNP which had been stable at about 8 percent during the 1980s, resumed to grow rapidly from 8.0% in 1990 to 8.8% in 1993 (Blankenberg et al. 1994).

A third reason for the persistent health care cost inflation is the *increasing proportion of elderly*. In the Netherlands the aging population is estimated to generate annual increase of health care expenditure of 1 to 3 percent in the period 1990-2015 under different health policy scenarios, assuming a stable morbidity pattern and a constant health care technology (Huijsman et al. 1994). Finally, an ageing population and improvements in preventive and curative medical care are associated with a *shift in morbidity patterns* away from acute toward chronic diseases, among which the prevalence of non-fatal disabling diseases, such as rheumatoid arthritis and diabetes, is increasing (STG 1992). The total gain in life expectancy resulting from more efficacious treatment of fatal diseases (such as heart disease, stroke and cancer) is considerably higher than the gain in *healthy* life expectancy (Van den Bos et al. 1993). Hence, the financial burden of illness for society is likely to increase, particularly because the rise in expenditure may be enhanced by the fact that labor-intensive long term care and home health care are particularly exposed to Baumol's cost disease (Newhouse 1992b, Van der Zwan et al. 1994). However, evidence of a significant positive relationship between life expectancy at an advanced age and health care expenditure was not found in a cross-country analysis based on aggregate OECD data (Zweifel and Ferrari 1992).

1.4.2 Cost containment strategies

The most simple government strategy to curb rising *public* health care expenditures is to privatize health care financing by reducing the eligibility and coverage of social health insurance, by reducing the extent of tax-financed health care or by increasing the extent of cost-sharing. However, a continuous decrease of the share of publicly financed health care expenditure is likely to prompt an increasing conflict with equity goals of society. Besides, if because of privatization of health care finance altruistic preferences cannot be met, this strategy may also result in a welfare loss to society.

As an alternative to cost shifting, government may deal with rising (public) health care expenditures by cost containment. Two basic cost-containment strategies can be distinguished. The first strategy relies on price controls and on direct or indirect quantity rationing by supply-side regulation. In health care, price control and quantity rationing policies have to be applied simultaneously in order to control expenditure, because of suppliers' capability to manipulate demand. The second cost containment strategy consists of creating more price-elastic demand for health care by restructuring the incentive structure at the demand side.

Supply-side regulation

Abel-Smith (1992) conducted a survey of cost containment policies in twelve European countries during the period 1983-1990. His main conclusion is that it

is technically possible to contain health care costs by government regulating supply rather than demand. The principal tools of supply regulation were the use of budget restrictions on expenditure reinforced by manpower controls. The key to success, according to Abel-Smith, is the use of monopsonistic power by a dominating purchaser or by many cooperating purchasers, which are forced by government regulation to act together and are bound by the same restraints on the supply side. However, questions can be raised about the macro-economic and micro-economic effects of quantity rationing in health care and about its long-term effect on cost containment.

The macro-economic consequences of quantity rationing measures in the Dutch health care system were investigated by Vandermeulen et al. (1986). Using the Central Planning Bureau's macro-economic model of the Dutch economy (known as the Freia-Kompas model), they estimated the consequences of a number of rationing measures. They found that, both in the short and in the medium term, quantity rationing in health care has strong negative effects on aggregate consumption and employment, thereby augmenting the structural excess supply in the aggregate labor market.

The potential adverse micro-economic consequences of price controls and quantity rationing are well-known. In 'normal' markets, such policies tend to reduce both static and dynamic efficiency of resource allocation. In the health care market, however, the effect of price and quantity controls on efficiency is less obvious due to the presence of information problems. But also in health care such policies offer little incentives for a cost-effective matching of patient needs and health care resources and for cost-effective innovation. For instance, global expenditure limits for different types of care tend to inhibit cost-effective substitution and do not discriminate between appropriate and inappropriate care. Moreover, in the presence of a (public) monopsonistic third-party purchaser one may wonder what would motivate the third party to compel providers to be efficient, innovative and responsive to the consumers' preferences rather than pursuing cost-containment objectives only.[23]

Apart from its potential adverse macro- and micro-economic consequences, the effects of prolonged price and quantity regulation on cost containment are questionable. During the 1980s the success of supply regulation in terms of cost containment may be attributed to the presence of considerable slack in the system, which had emanated from preceding decades of largely uncontrolled expansion. Hence, in the first years of price and quantity regulation it was relatively easy 'to squeeze the fat out of the system'. But without a restructuring of the health care system to improve the coordination and efficiency of health

23 In the case of a *private* monopsony in health insurance adverse welfare consequences are most obvious since a dominating private insurer can increase its monopoly rents in the insurance market by the exercise of monopsony power in the medical services market (Pauly 1988b).

care delivery, further cost reductions are much harder to realize, provided that access and quality have to be maintained. Notably, all major OECD countries which during the 1980s had achieved a relatively stable share of health expenditure in GDP as a result of successful supply regulation (Australia, Canada, France, Germany, United Kingdom and Italy), have experienced substantial increases in the ratio of health spending to GDP from 1990 to 1992 (Schieber et al. 1994). As remarked before, the same pattern can be observed in the Netherlands.

Demand-side reorganization

The second cost containment strategy focusses on increasing the efficiency of health care delivery by the introduction of managed or regulated competition among health insurers and among providers (or among vertically integrated provider-insurer organizations). A fundamental restructuring of the incentive structure at the demand side should increase the price-elasticity of demand for health care. In contrast to supply-side regulation this alternative cost containment strategy has nowhere been fully implemented yet, although it is the major objective of health care reform in an increasing number of countries (Van de Ven et al. 1994a). This is not surprising given the earlier described complexity of such a demand-oriented strategy in health care. Until recently, the state of information technology did not even made such a strategy technically feasible.

It should be realized that market-oriented reforms are primarily targeted at reducing unit costs, not at reducing total health care costs. Thus, if more units, or units of higher quality will be traded in the health care markets, total health expenditure may still go up despite the reduction in price per unit. Nevertheless, a successful implementation of some form of managed or regulated competition may result in slowing down the growth of health expenditure because it can reduce the amount of inappropriate care, encourage productivity improvement and stimulate the development of cost-reducing technologies.

Based on macro-economic models of the Dutch economy the Netherlands Central Planning Bureau (CPB 1992) made forecasts about long-term effects of different health policy strategies in the context of different scenarios of government policy. Specifically three health policies were distinguished: the first scenario ('Balanced growth') foresees a successful implementation of proposed market-oriented health care reform in the short run; in the second scenario ('Global shift'), the status quo is maintained until the year 2005, after which a radical change toward a market-oriented health care system is made; the third scenario ('European renaissance') hinges on active government involvement, retrospective (instead of prospective) budgeting of health insurers, implementation of standards for medical practice and cost sharing by consumers. Not surprisingly, health expenditure as percentage of GDP is predicted to increase

under each scenario. Starting from 8% in the base year 1990, 25 years later health care is predicted to consume 9.3% of GDP under the first, 10.3% under the second and 10.9% under the third scenario (estimations for the second scenario point out that maintaining the status quo throughout the entire period would result in considerably higher health expenditure, consuming about 12.5% of GDP in 2015). In addition, Zant (1992a) shows in the context of a simple macro-economic model that increasing the price elasticity of demand for medical care – by giving insurance companies a substantial financial incentive to purchase cost-effective care from competing providers – can act as a powerful break on the growth of health care expenditure. Although the predictions are based on a number of heroic assumptions about the impact of different policy scenarios, the results indicate that regulated competition may result in more effective cost-containment than maintaining the status quo or a mixed strategy of global budgeting, cost sharing and medical practice regulation.

As set out earlier, there is ample empirical evidence to sustain the workability of different pieces of the concept of managed (or regulated) competition, but there is no evidence to evaluate the performance at the system level. According to Enthoven (1993a), it is precisely the lack of government action to remove the existing institutional barriers to price elastic demand which explains why managed care fails to contain total health care costs in the US.

Eventually, the proof of the pudding is in the eating. But given the lack of experience at the system level and the complex technical and institutional implementation problems that have to be solved, governments would be unwise to rely solely on demand-side induced cost control by the introduction regulated competition in health care. Hence, for the time being governments should retain tools to regulate prices and quantities as a kind of 'emergency brake'. In several US health care reform proposals, among which that of the Clinton administration, managed competition was supplemented by global budgets as a 'second line of defense against rising health care costs' (Starr and Zelman 1993). Aaron (1993) explains how budget limits for hospitals can be constructed to strengthen and channel the incentives of managed competition. However, the linkage between expenditure limits and managed competition is controversial because of the ultimately conflicting nature of market and government constraints on expenditure (Ginsburg 1993, Van de Ven 1994).

1.5 Conclusion

In many markets competition among sellers effectuates a reasonably efficient allocation of resources. By contrast, in health services and health insurance markets, unregulated competition will not generate an efficient resource

allocation due to the presence of pervasive and biased uncertainties. Besides, the presence of strong altruistic externalities, egalitarian equity goals and macro-economic constraints on total public health expenditure explain why competition plays a minor role in health care markets. Arrow (1963) argued that many of the special characteristics of the medical care market – such as professional licensure, ethical codes of conduct, absence of price competition and profit-maximizing behavior, and the existence and form of health insurance – can be considered to be attempts to overcome the lack of optimality of an unregulated competitive market for health services. However, in an increasing number of countries the perceived lack of efficiency in health care markets has prompted the question whether the largely non-competitive nature and nonmarket social institutions in health care are (or continue to be) the best response to the failure of the market to achieve an optimal state, or if, and under what conditions, social efficiency could be improved by other institutional arrangements. Changing conditions can make alternative institutional solutions feasible. The quest for ways to improve efficiency in health care markets has led to a reconsideration of the role of competition. The key question is whether some form of competition can increase efficiency under constraints of maintaining equity and cost containment.

As explained in this chapter the information problems in health care give rise to four fundamental agency problems that have to be addressed to achieve an efficient allocation of resources. Moreover, the realization of social efficiency also depends on the possibility to internalize strong altruistic preferences with regard to the demand for health services.

The most promising model to deal with these information and externality problems simultaneously is the concept of managed (or regulated) competition, as developed and subsequently refined by Enthoven (1978, 1988, 1994). The managed competition model can also deal with equity considerations, since it includes a redistributive mechanism which can be attuned to different distributive principles. However, although a successfully implemented managed competition model can reduce unit costs, there is no guarantee that it will automatically hold total spending growth.

In the regulated competition model, the government still has to play an active and important role. Major government responsibilities are to develop, administer and enforce the rules of competition, to support national quality assessment programs, to define a standardized basic benefit package and to effectuate a system of cross-subsidies from the healthy and wealthy to the sick and the poor. Hence, the introduction of regulated competition implies *re*regulation rather than *de*regulation. Moreover, government has to retain its primary responsibility for the financing and organization of comprehensive preventive care programs and for the financing of long-term care for the

chronically ill, since the model of regulated or managed competition is less appropriate for these types of care.

For a successful implementation of the regulated or managed competition model several complicated technical and institutional problems have to be mastered. Major technical issues are the development of an adequate risk-adjusted capitation payment for health insurers or other third-party purchasers, the systematic gathering and evaluation of process and outcome data to assess quality of care, the dissemination of understandable information about quality of care to the general public and the development of standardized product definitions and related output prices. The rapidly advancing information technology augments the capability and reduces the transaction costs of dealing with these problems. It should be noticed that solutions to these technical problems are, to some extent, critical not only to the success of managed competition but also to that of other health reform proposals. For instance, in single-payer systems, where monopsonistic buyers negotiate capitation payments with competing providers, a risk-adjusted payment system will be necessary to avoid cream-skimming by providers. Gathering and evaluating information about health outcomes is crucial to the success of single-payer systems and to that of prolonged quantity rationing by the government as well. When single-payers contract with competing providers, the construction of appropriate product definitions and adequate systems of output pricing are also important for better resource allocation. So, the challenges for future health care policy are to a considerable extent independent from the direction of health care reform.

A major institutional problem is to create workable competition in health care systems in which non-market institutions are deeply rooted. For instance, the Dutch health care system has a long-standing tradition of collective bargaining by government-protected cartels. Changing the formal rules of the system may not be sufficient to generate the intended conduct. The speed and success of any system reform does not only depend on the introduction of new formal rules but also on the flexibility of underlying informal norms which are shaped by past experience. North (1994, p. 366) cautions that 'while the rules may be changed overnight, the informal norms usually change only gradually; since it is the norms that provide 'legitimacy' to a set of rules, revolutionary change is never as revolutionary as its supporters desire, and performance will be different than anticipated.' Given the intricate information problems in health care it may not be surprising that system designs to overcome these problems are highly complicated and may well go beyond what is institutionally or politically feasible, at least in the short term. Typically, all health care reform proposals aimed at introducing some form of managed or regulated competition are marked by a high degree of complexity. For instance, the US health care

reforms, as proposed by the Clinton administration in November 1993, were depicted by Aaron (1994, p. 31) as 'on any reasonable scale of complexity [...] the most intricate legislation with which Congress has attempted to grapple since World War II.' The feasibility of the managed competition model will crucially depend on the flexibility of the institutional structure of society in general, and that of its health care system in particular. The ability to adapt the institutional structure to changing conditions determines the adaptive efficiency of an economy. According to North (1994) it is adaptive rather than allocative efficiency which is the key to long-term success of a political or economic system.

2

Health care reform in the Netherlands: striking a balance between corporatism, etatism and market mechanism[1]

Summary

This chapter analyzes the transformation of the Dutch health care system and examines the reasons behind the market-oriented health care reforms which have been implemented since 1989.

During the postwar period, the gradual transformation of the Dutch health care system was interrupted twice by attempts to introduce radical reforms: the 1974 comprehensive health planning scheme and the 1987 pro-competitive national health insurance scheme. The market-oriented reform is focused on a fundamental change of the incentive structure for insurers and providers. The objective is to get both parties interested in cost containment and improve efficiency, while preserving universal access through a central redistributive financing mechanism.

In the Dutch political context radical reform proposals can only be introduced by a prolonged series of incremental changes, which offer the corporatist organizations of providers and insurers ample opportunity to dismantle the original reform design. The 1974 comprehensive health planning scheme failed largely because of this corporatist trap. The 1987 market-oriented reform scheme is running the same risks, in spite of the fact that it offered an ingenious political compromise. Corporatist organizations of providers and insurers were reluctant to relinquish the comfortable collective bargaining model and to assume the associated financial responsibility. Private health insurers were particularly successful in slowing down the reform by frustrating the development of a prospective risk-adjusted payment mechanism. Paradoxically, the resistance of corporatist organizations to the 1974 and 1987 reforms provoked far-reaching ad hoc state interventions. Without a reorganization of the decision-making process itself, a new, satisfactory balance between corporatism, etatism and market mechanism in the organization of health care cannot be achieved.

1 A shorter version of this chapter has been accepted for publication in the Journal of Health Politics, Policy and Law (Schut 1995).

2.1 Introduction

Industrialized countries are struggling with the problem of how to fit expanding health care sectors into their managed market economies. So far, the search for solutions has generated an impressive number of health care reform proposals. In European countries the main incentive for health care reform is to increase the efficiency of medical care while preserving universal access and expenditure control. Since in the United States neither universal access nor cost control has been achieved as yet, health care reform proposals, among which that of the Clinton administration (Health Security Act, 27 October 1993), are directed at promoting equity, efficiency and cost control simultaneously. To increase efficiency, European health care reform proposals are aiming at injecting some market or quasi-market elements into their health care system (Hurst 1991). In publicly operated health care systems specific models of competition among providers have been proposed for the Northern European countries like Sweden and Finland (Saltman and Von Otter 1992a), or are already being implemented, as is the case in the United Kingdom (Culyer et al. 1990). In countries with a social health insurance system, like Germany and the Netherlands, reforms are also directed at promoting workable competition among health insurers (Von der Schulenburg 1994, Schut 1992a). Although its starting point is fundamentally different, Dutch health care reform has similar basic features to the Clinton plan: a combination of national health insurance and regulated (or managed) competition among insurers and providers.

Contrary to most proposals, the Dutch reform plans are currently being implemented and thus may offer an interesting 'demonstration project' to other countries considering restructuring their health care system (Van de Ven 1991). Some observers exemplify the Dutch health care reform proposal as a promising model, combining universal access and efficiency (Hurst 1991, Barr 1992). Others, however, wonder why a radical reform of the Dutch health care system is necessary, particularly given the fact that during the 1980s health care expenditure has been fairly stable at about 8 percent Gross National Product (GNP). In addition, critics of the reform proposals often refer to the alleged inflationary effects of competition in the US health care system. Some even depict the market-oriented health reforms in Europe as the offspring of a competition vogue, uncritically adopted from neo-classical health economists in the US (Glaser 1993).

In this chapter the reasons behind Dutch health care reform are investigated. At first, a brief outline of the Dutch health care system is provided. The nature of the reforms can be understood only against the background of the postwar transformation of the Dutch health care financing and delivery system and the role of the government, the medical profession, hospitals and health insurers in

decision-making. Particular attention will be paid to the explanation of the rise and fall of the comprehensive health planning scheme. Next, the reasons behind the pro-competitive health care reform will be examined and the prospects and problems of the health care reform will be discussed. Finally, given their similar basic features, Dutch health care reform will be briefly compared with its American counterpart.

2.2 Main features of the Dutch health care system

In this section the main features of the Dutch health care system will be described. In the Netherlands health care financing and delivery are effectively split. Health care financing is largely carried out by social health insurance foundations, called 'sickness funds', and private health insurers. Sickness funds contract with providers and remunerate physicians either on a per capita basis (general practitioners) or on a fee-for-service basis (medical specialists). Private insurers do not have contractual relationships with providers but simply reimburse the medical expenses of their policyholders. Health services are primarily delivered by independent physicians and independent institutions.

2.2.1 Health care financing

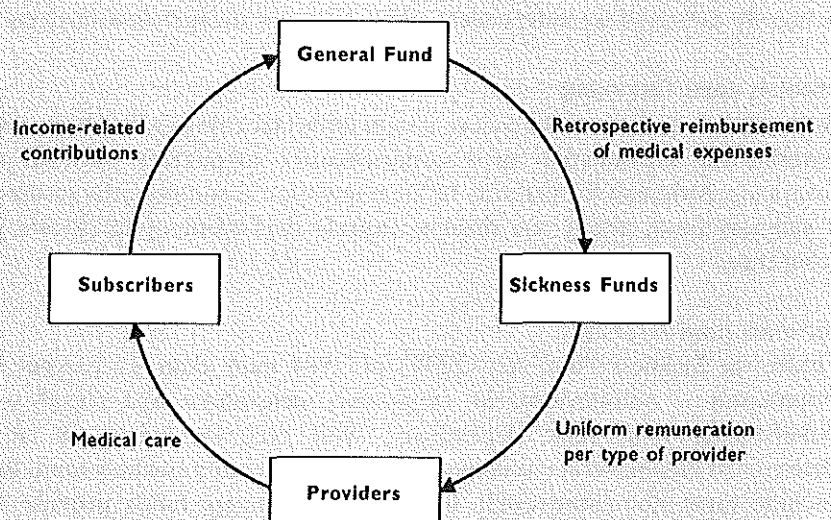
In the Dutch health care financing system universal coverage has been achieved without the introduction of a comprehensive mandatory national health insurance. Although the majority of the population is compulsorily insured with a sickness fund, about one third is entirely dependent upon private health insurance.

Sickness fund insurance

Under the Sickness Fund Act (ZFW) of 1964 more than 60 percent of the population – non-government employees, pensioners and social security beneficiaries (and their dependents) with incomes below an annually determined income level – is compulsorily insured with a sickness fund. Benefits include most non-catastrophic health risks. Sickness funds provide service benefits, so subscribers do not have to pay any medical bills. Because sickness funds provide service benefits, they have to conclude contracts with health care providers. Until 1992, each sickness fund was obliged to conclude contracts with all providers who were established within its legally defined territory. The uniform terms of these contracts were negotiated at a national level and had to be approved by the Sickness Fund Council, a statutory body which is entrusted with the supervision over the administration of the sickness fund insurance scheme. The Association of Dutch Sickness Funds (VNZ) was formally

appointed as the representative body to negotiate contracts with several provider associations. Sickness funds are legally prohibited to employ providers or to run health care institutions. Contributions (or premiums) are determined every year by the government as a uniform percentage of gross income and are independent of family size. Until the instigation of the health care reforms in 1989 half the premium was paid by the employer (or by social security funds in cases of unemployment or disablement). All contributions of employers and employees were collected in a General Fund, which was administered by the Sickness Fund Council. Sickness funds received a full compensation for their subscribers' medical expenses from the General Fund (see Figure 2.1).

Figure 2.1 Sickness funds insurance system before the instigation of the reform in 1989[a]



a In addition to income-related contributions from subscribers, the General Fund received equal contributions from employers and subsidies from the national government.

Private health insurance

In comparison to other European countries, the Netherlands has a large private health insurance sector. At present, approximately one third of the population is privately insured against the cost of medical treatment, including higher-income employee groups, the self-employed and state government officials (besides, provincial and municipal civil servants and their dependents, which account for about 5% of the population, have a separate mandatory health insurance arrangement). Although private health insurance is voluntary, in 1992 only 0.7 percent of the total population was uninsured (CBS 1993). Most private health insurers are members of a coordinating trade association (KLOZ), which is formally appointed to negotiate uniform fees with health care providers. Traditionally, however, private health insurers have been anxious not to interfere with medical practice and do not conclude contracts with providers. Private insurers are free to determine premiums, coverage and underwriting standards, except for pensioners and high-risk groups, who subscribe to a government-instituted private risk pool arrangement (WTZ). Private health insurance coverage regularly includes inpatient care, outpatient specialist care and paramedical treatment. The proportion of the privately insured population buying coverage for general practitioners' services has rapidly increased, from 56% in 1980 to 92% in 1992 (KISG 1993). In contrast to the US private health insurance market, employment-based group contracts play a relatively minor role because most employees are eligible for sickness fund insurance. Hence, about two thirds of all health insurance policies are concluded with individuals.

National insurance for exceptional medical expenses

Finally, under the Exceptional Medical Expenses Act (AWBZ) of 1967 a mandatory national insurance scheme was constituted for covering uninsurable medical expenses such as nursing home care and other forms of long-term institutionalized care. During the 1980s, however, coverage has been gradually extended to less 'exceptional' medical and social services, such as outpatient mental health care, home health care and home help. The administration of the AWBZ is partly centralized and partly delegated to sickness funds and private health insurers. The AWBZ played an important role in the market-oriented health care reform, because its benefit package was gradually extended in order to become a single comprehensive national health insurance scheme. Due to successive extensions of AWBZ coverage since the instigation of the health care reforms, its share in total health care finance has risen from about 25 in 1989 to about 40 percent in 1992 (see Table 2.1).

Table 2.1 **Sources of health care financing in the Netherlands in 1988 (before the reforms) and in 1992**

Sources of payment	Percentage of payments in 1988		Percentage of payments in 1992	
	Direct payments	Corrected for transfer payments[d]	Direct payments	Corrected for transfer payments[d]
Government[a]	4.4	9.6	4.9	10.1
Exceptional Medical Expenses Insurance (AWBZ)	25.8	23.5	40.4	38.4
Sickness Funds Insurance	42.4	36.6	31.3	26.1
Private Health Insurance[b]	19.9	20.4	16.7	16.7
Residual payments[c]	7.6	9.9	6.8	8.7
Total	100	100	100	100

a Direct government payments are primarily spent on university hospitals, public health services, and health policy and administration.
b This category includes private health insurance companies, statutory health insurance arrangements for civil servants (KPZ), and private supplementary sickness fund insurance.
c This category primarily consists of out-of-pocket contributions by households.
d Transfer payments include annual government subsidies to sickness fund insurance and to statutory health insurance arrangements for civil servants, income-related copayments from households for AWBZ-benefits, and obligatory subsidies from private health insurers to the sickness funds to compensate for an unequal distribution of elderly people (MOOZ).
Sources: Calculations are based on data from CBS, Costs and financing of health care 1992; WVC, Financial surveys of health care 1991 and 1994; Sickness Fund Council (ZFR), Annual report over 1989.

2.2.2 Health care delivery

The description of the health care delivery system will be confined to the provision of physician and hospital services. Although most physicians are independent professionals and most hospitals are independent institutions, both are operating in markets in which pricing and entry are completely determined by direct government regulation or by government-condoned self-regulation. Providers have given up part of their economic autonomy in exchange for economic security. In this sense, the Dutch medical profession could be more adequately labeled as a 'protected' than as a 'liberal' profession.

General practitioners

An important feature of the Dutch health care delivery system is the sharp distinction between general practitioners and medical specialists. The general practitioner (GP) performs an important role as a gatekeeper of the health care delivery system. Usually, health insurers only compensate the cost of specialist medical care, paramedical services and outpatient mental health care if patients are referred by their GP. Individuals or households are supposed to register with

a GP in their neighborhood. Solo practice is the dominant type of practice, accounting for more than half of the GPs in 1992, although the share of group practices has gradually increased (WVC 1992b). More than ninety percent of GPs are members of a National Association for General Practitioners (LHV), which has been designated as the representative body to negotiate the uniform capitation payment with the sickness fund association (VNZ). The capitation payment is calculated so that GPs with a standard-sized practice (at present 2350 patients) earn a target income that is comparable to that of certain highly ranked government officials. Contrary to the sickness funds, private health insurers do not conclude contracts with GPs. Nevertheless, in 1972 private health insurers and GPs reached an agreement about a uniform fee schedule for services to private patients. Since then, private fees are derived from the same target income as used for the determination of sickness fund payments. Entry to the GP market is severely restricted by self-regulation as well as by government regulation. Before starting a GP practice three hurdles have to be taken. The first entry barrier is to get access to a medical school, of which the capacity is restricted by government. Next, medical school graduates have to apply for a three years' training programme which entitles them to register as GP. Although the training capacity is determined by the professional organization, the government has an important say because it provides most of the program's funds. Finally, after registration the candidate GP must obtain legal permission to set up his own practice. As a result of a 1985 Convention between the government and the LHV, municipalities were empowered to refuse the establishment of new GP practices if the average GP practice size was below a legally determined standard. The LHV wholeheartedly supported the legal restrictions on the establishment of new GP practices, because the increasing number of unemployed registered GPs, mounting up to about 9% in 1986 (WVC 1988), had become a serious threat for the earnings of the established GPs. By a subsequent reduction of the number of applicants to the medical schools and to the GP training programme the excess supply of GPs has gradually evaporated. By 1990 the official unemployment rate had dropped to only 2% (WVC 1991) and in the mid-1990s an increasing shortage of GPs is expected if the training capacity will not be considerably extended (NRV 1993).

Medical specialists

Dutch medical specialists primarily only practice inside the hospital. About three quarters of the total number of active Dutch medical specialists are private entrepreneurs who cooperate in hospital-based partnerships of six members on average, while the remainder are primarily employed by university hospitals. Most partnerships have a horizontal organizational structure without a formal leader or a formal hierarchy. The professional and economic interests

of independent specialists are promoted by the National Association of Specialists (LSV) and two, recently separated, minor interest associations. The LSV is officially recognized by the state as the representative organization of specialists, which is formally involved in collective fee negotiations and with the major advisory bodies. Both sickness funds and private health insurers reimburse independent specialists primarily on a fee-for-service basis. In 1949 the associations of sickness funds and medical specialists agreed upon a uniform fee schedule. Twenty years later, in 1969, private health insurers also reached an agreement with the LSV about national guidelines for a private fee schedule. Traditionally, private fees have been substantially higher than fees paid by sickness funds. This difference was prompted by the higher earnings of the privately insured population. In the beginning of this century, the different fee levels were reflected on a considerably different level of service, but that difference has been largely, though not completely, vanished. For several decades, government, specialists and health insurers have been subscribing to the idea of abolishing price discrimination. Although the gap has been reduced, private fees are still on average twice as high as the fees for sickness funds.

Entry to the market of medical specialists is primarily regulated by the professional associations (Jaspers et al. 1983). To become eligible for registration as a specialist, medical school graduates have to work for about five years as a resident in a training position at a teaching hospital. The criteria for registration are set by the medical profession and the training capacity is determined by the various specialty associations. During the 1980s the specialty associations anticipated an increasing excess supply of specialists by cutting down the resident training capacity (Lapré and De Roo 1990). From 1980 to 1990 the number of training positions was reduced by 27 percent (from 3055 to 2230), which was sufficient to eliminate excess supply completely.[2] Medical specialists who are adopted by a partnership usually get a contract with the relevant hospital. To get access to a partnership a new specialist has to pay a large goodwill fee (equivalent to the average annual gross revenue of the specialists in the partnership). The government can indirectly influence the entrance of new specialists by restricting the number of officially recognized specialist positions in hospitals. Specialists without officially recognized positions are not entitled to get reimbursed by sickness funds.

2 Although a cutback in resident training capacity would alleviate the direct pressure on the income of the established specialists, it would also imply that the same amount of work had to be carried out by a decreasing number of residents. Because it was inconceivable to augment the already excessive workload of residents in training (agio's), this problem was solved by appointing so-called residents-not-in-training (agnio's). Contrary to the regular residents, this new type of residents were not entitled to become specialist in due time. The number of residents-not-in-training increased in direct proportion to the cutback in training capacity. In 1990, 875 residents-not-in-training were working in teaching hospitals, thereby neatly filling the gap which was caused by the reduction of 825 training positions during the period 1980-1990.

Hospitals

In 1990 acute hospital care for the Dutch population (about 15 million people) is provided by eight university hospitals, 128 community general hospitals, and 41 specialized hospitals (e.g. children's hospitals, maternity hospitals, eye clinics, cancer clinics). University hospitals are controlled by university medical schools and owned by the state. Outpatient clinics are tied to the hospitals. Until recently there were no independent outpatient clinics but for several years now the number of private outpatient clinics has been increasing. Except for a small number of municipal hospitals, community general hospitals are state-independent institutions owned by private non-profit foundations. Originally, Dutch hospitals were primarily organized along denominational lines, which by now have largely faded as a result of many consolidations during the last two decades. Despite their independent status, hospitals have limited room for independent policy because of stringent government regulation. Hospital rates are regulated by the Health Care Prices Act (WTG). They are derived from the hospital's capital costs and from the annual budget for operating expenses that hospitals have to negotiate with health insurers in accordance with guidelines set out by the Central Office on Health Care Prices (COTG). Hospital capacity is regulated by the Hospital Facilities Act (WZV). Accordingly, the construction of new hospitals and all other major hospital investments are subject to approval by the government.

2.3 Principles of Dutch health care policy

Traditionally, Dutch government policy is permeated by two important principles: the principle of subsidiarity, implying that responsibility for decision-making should be laid at the lowest possible level; and the principle of social solidarity, implying that the better-off should subsidize the worse-off to make health care affordable to all income groups and risk categories. Both principles express the idea that as members of society people in general are implicitly responsible for one another's welfare and are particularly supported by the Christian democratic political parties, which have dominated government policy throughout the twentieth century.[3]

Until the parliamentary elections of May 1994, the Dutch political spectrum consisted of three major parties: a social democratic party (PvdA) on the left

3 The Catholic principle of subsidiarity reflects the 'organic' view of society as an interwoven and interdependent series of networks, relationships and mutual obligations. According to this view, corporatist organizations, representing the various parts of a differentiated society, have to play a formal role as intermediaries between citizens and the government to contain political and economic conflict. The principle of subsidiarity has its counterpart in the Protestant 'principle of sovereignty in one's own sphere' with a similar purport.

side, a conservative liberal party (VVD) on the right side[4], and a Christian democratic party (CDA) in the center (the CDA was the result of a merger between a Catholic and two Protestant parties in 1977). Because no one political party has ever had an overall majority in parliament, the Netherlands has been governed by a succession of coalition cabinets of varying composition. Due to their strategic position in the political center, the Catholic party and subsequently the Christian democratic party have ceaselessly participated in coalition cabinets since 1918. Moreover, in most coalition cabinets they also were the biggest party. Because of the persistent and often dominant presence of the Christian democrats, government policy is characterized by incremental rather than radical change. Furthermore, because of the high level of institutional decentralization, political decision-making is based on collective bargaining with and between powerful interest groups. Such a 'cartel-democracy' is marked by political stability and indecision (Lijphart 1988). Due to the predominance of officially recognized interest groups in the political decision-making process the Dutch polity has been put forward as an outstanding example of corporatism (Schmitter 1981).[5]

In Dutch health policy the general features of political decision-making are even more salient. The principle of subsidiarity has generated a health care system in which private institutions play a dominant role. The principle of social solidarity has triggered an increasing amount of government regulation. Rising health care expenditure has forced the government to expand the social insurance system and to develop policy instruments to contain the costs of medical care. Where social solidarity tends to broaden collective provision of health care, subsidiarity tends to restrict its scope. The combination of both principles has generated a diffuse division of power between the government and associations representing the interests of health care providers and health insurers.

As a result of the adherence to the principle of subsidiarity, these interest associations have become embedded in the policy-making process in health care. Hence, health care policy is built upon corporatist arrangements whereby the state delegates public regulatory authority to such associations. Officially recognized representative associations of providers, health insurers, employers and employees are entrusted with substantial authority to negotiate health care

4 In the Netherlands 'liberal' stands for 'laissez faire' rather than 'progressive', which is the US connotation. Next to the conservative liberal party there is also a progressive liberal party (Democrats '66), which has become a fourth major party in parliament since the 1994 elections.

5 Following Schmitter (1981, p. 295), (neo-)corporatism is defined here as 'a mode of policy formation, in which formally designated interest associations are incorporated within the authoritative decision making and implementation; as such, they are officially recognized by the state not merely as interest intermediaries but as co-responsible 'parties' in governance and societal guidance.'

prices and other contractual conditions, to determine the supply of medical manpower and to establish the premiums and benefits for the social health insurance programs. They are granted a majority of the seats in the national advisory and superintendent bodies, which play a determining role in the decision-making process, such as the Central Office on Health Care Prices (COTG), which is charged with the monitoring of health care prices, the Sickness Fund Council (ZFR), which is charged with the supervision over the administration of the social health insurance programs and the National Council for Public Health (NRV), which is the main advisory body on general health policy matters (Rutten 1987). The associations are granted a representative monopoly in exchange for their compliance with public interest by disciplining members in accordance with public goals. Generally, the associations are encouraged to espouse the public interest under threat of direct state intervention.

Besides, within the government the Ministry of Welfare, Health and Cultural Affairs has to share its primary responsibility for health care policy with the more powerful Ministries of Finance and Economic Affairs. This implies that health policy measures have to be attuned to the objectives of general financial and macro-economic policy, which in turn are heavily influenced by employer associations and labor unions.

Within the complex structure of checks and balances that have emerged in the postwar period, neither government nor any of the major interest groups have had enough power to accomplish fundamental changes independent from the others (Van der Grinten 1987, Elsinga 1989). However, each of them have had sufficient influence to obstruct the others' initiatives. Therefore, Dutch health policy is marked by an impressive record of disregarded advisory reports and defeated bills. Unilateral government intervention can only succeed if self-regulation clearly fails to support the public interest.

2.4 From corporatism to etatism: towards a rational health planning design

In the first half of the century, the main concern of government health policy was to guarantee universal access to health services. However, resistance to compulsory health insurance by interest associations has largely contributed to the failure of repeated attempts to introduce a social health insurance scheme. Hence, except for the poor, the government relied on voluntary organizations to provide affordable health insurance (Van der Velden 1993). Only in 1941, during the German occupation, a compulsory health insurance scheme was imposed by the promulgation of the Sickness Funds Decree.

2.4.1 The postwar decade of reconstruction

After the second world war the reconstruction of industrial infrastructure made government control over hospital rates and capacity imperative. The postwar Reconstruction Act (Wederopbouwwet) empowered the government to determine the total budget for hospital construction. In 1947 the government appointed a Hospital Council (Ziekenhuiscommissie) to give advice on setting priorities for licensing hospital construction. During the next decade most of the expansion of hospital capacity was realized by a more intensive use of existing buildings or by the erection of provisional accommodations. Government regulation of hospital rate setting dates back to the introduction of a general price regulation in 1939, which was motivated by the threat of war and concurrent scarcity. Until 1965, hospital per diem rates were based on guidelines by the Ministry of Economic Affairs. However, these guidelines were not rigidly applied and individual hospitals could negotiate deviating rates. Neither sickness funds nor private health insurers were involved in the determination of hospital prices. In contrast to the hospital sector, physicians were not subject to extensive government regulation. Already in the first years of the postwar period, the associations of sickness funds and those of general practitioners and medical specialists agreed upon uniform reimbursement schedules. Since then physician reimbursement levels would be determined by periodical negotiations between the associations of sickness funds and physicians.

After the second world war the reconstruction of the industrial infrastructure made government control over hospital rates and capacity imperative. But as soon as the economy had recovered, the government delegated the responsibility for the determination of hospital prices and capacity for the most part to the associations of hospitals and health insurers.

2.4.2 Economic expansion and laissez-faire corporatism

As soon as the economy had recovered, however, the government delegated the responsibility for the determination of hospital prices and capacity largely to the associations of hospitals and health insurers. Because of continuing economic growth during the 1960s, government intervention in the economy was no longer deemed necessary. Generally, hospitals were not applauding the abandoning of hospital price regulation, since they had a clear preference for negotiating prices with the Ministry of Economic Affairs rather than with a vast number of individual sickness funds. Nevertheless, in 1965 the Hospital Prices Act (WZT) was adopted, under which the principal responsibility for hospital price setting was formally shifted from government to sickness funds and hospitals. A specific body, known as the Central Office on Hospital Prices (COZ), was assigned either to approve hospital rates negotiated by hospitals

and sickness funds or to establish hospital rates by itself (because private insurers did not conclude contracts with hospitals, hospital rates for private patients were determined directly by the COZ). In practice, sickness funds left the determination of hospital rates completely to the COZ because they lacked expertise to negotiate prices with individual hospitals. The board of the COZ consisted of representatives of the hospitals, the sickness funds and a number of independent experts, but until the mid-1970s hospital representatives were dominating. Thus, in fact hospital rates were largely determined by the hospitals. Moreover, sickness funds had no incentive to control hospital costs and economic growth generated sufficient financial resources to afford rising hospital expenditure.

During the 1960s the combination of economic growth and a laissez-faire government policy paved the way for an accelerating expansion of the hospital industry. The repeal of the Reconstruction Act in 1966 left the government without any instruments to control hospital capacity. The number of hospital beds per 1000 inhabitants increased steadily, reaching a maximum of 5.7 beds per 1,000 inhabitants in 1972. Notwithstanding the rapid growth of the number of hospital beds the occupancy rate of general hospitals remained virtually constant at a level of 90% which can be attributed to the steadily increasing hospital admission rates (see Table 2.2).[6]

Table 2.2 **Key figures of Dutch hospitals** (general, university and specialized hospitals)

Year	Hospital days per capita	Average length of stay (days)	Admission rate (% population)	Number of beds per 1000 inhabitants	Occupancy rate (% beds)
1950	1.2	22.0	5.5	4.2	79.4
1955	1.5	20.1	7.3	4.8	84.7
1960	1.6	20.1	8.0	5.1	87.1
1965	1.8	20.4	8.6	5.4	90.0
1970	1.8	18.8	9.8	5.6	90.0
1975	1.7	16.1	10.6	5.5	85.3
1980	1.6	14.0	11.3	5.2	81.8
1985	1.4	12.5	10.9	4.7	79.1
1990	1.2	11.2	10.3	4.3	73.2

Sources: CBS, 1899-1989: Ninety years of statistics in time series; CBS, Compendium of health statistics of the Netherlands (1974, 1986); CBS, Costs and financing of health care 1990; WVC, Financial survey of health care 1992.

6 The steady occupancy rates were probably caused by the prevailing method of hospital reimbursement. Until 1973 hospital per diem rates were legally fixed at total costs per day divided by 90% of the available beds. Hence, hospitals needed to reach at least 90% occupancy rate to remain financially sound. Rutten (1978) finds statistical evidence for the supposition that hospital administrators might have encouraged physicians to utilize capacity to achieve at least a 90% occupancy rate.

The delegation of responsibility for the allocation of resources to corporative organizations resulted in a rapid expansion of the health care industry during the 1960s. Besides, the expansion was facilitated by a major extension of the social health insurance system in 1967 through the introduction of a national compulsory insurance scheme for long-term care, the Exceptional Medical Expenses Act (AWBZ). Hospital costs were escalating up to more than 20% a year in the early 1970s and health care expenditure as percentage of GNP increased from about 4% at the beginning of the 1960s to about 7% in the early 1970s.

2.4.3 The triptych of etatist health care reform

The escalating expenditure on health care was increasingly viewed as a macro-economic problem because the rising social insurance premiums raised labor costs and thus reduced the global competitiveness of the open Dutch economy. Particularly since the serious economic recession at the beginning of the 1970s, health care cost containment has become an important and persistent issue on the political agenda. There was a widespread recognition that the corporatist collective bargaining model was not suited to control the growth of health care expenditure.[7] Associations of sickness funds and private health insurers had little incentives and insufficient countervailing power to contain costs. The government too had few instruments to keep the expansion of the health care sector under control. Consequently, a broad consensus emerged that state intervention was needed. The first priority of the government was to gain control over the unbridled expansion of the hospital sector. Therefore, in 1971 the Hospital Facilities Act (WZV) was adopted to develop a five-year national hospital plan. The national plan had to put an end to the uncontrollable and regionally imbalanced expansion of hospitals and would eventually have to lead to a coherent and needs-based dispersal of hospital facilities. Under the WZV a Council for Hospital Facilities (CvZ) was instituted, which was entrusted with the task to develop such a comprehensive plan. The Council soon concluded, however, that conceiving a national hospital plan was a mission impossible. Hence, in 1974 government decided to revise the Hospital Facilities Act to replace national by provincial hospital planning.

Hospital planning was generally considered only as a first step towards a

7 It is noteworthy, however, that within the health care sector the COZ rather than the Ministry of Health was the first to stress the need for hospital cost containment (De Wolff 1984). During the 1970s the COZ gradually developed from a corporatist organization to a quasi-governmental organization. Consultations with the government were intensified so that the financial constraints of government health policy increasingly became the starting point for the formulation of guidelines for determining hospital rates. As a result, the COZ gradually alienated from the hospital industry.

prominent role of the state in managing the health care sector. Optimistic expectations about the potential role of the state in 'molding' society were bolstered by the achievements of the welfare state and the apparent success of the Keynesian macro-economic stabilization policy. The changing attitude towards the role of the state had important consequences for the political configuration. In 1973, after fifteen years of primarily center-right coalition cabinets, the social-democratic party won the parliamentary elections and obtained a dominant position in the new coalition cabinet. The emerging necessity for cost containment and the dominance of the social democrats induced a shift in the orientation of health policy from corporatism towards etatism or far-reaching state intervention.[8] In 1973, the majority of the Social and Economic Council (SER 1973), (at the time) a highly influential consultative body[9], recommended the introduction of a uniform national health insurance scheme with provisions to promote efficient health care delivery (e.g. by strengthening the role of the GP as a gatekeeper in controlling the use of medical care in the rest of the system). The following year, the Ministry of Health launched a 'Memorandum on the Structure of Health Care' (VOMIL 1974), which can be considered as the start of government efforts to constitute a program of comprehensive health planning. (For a comparison with US health planning, see Kirkman-Liff et al. 1988.) A fundamental restructuring of health care was deemed necessary because the available instruments to contain costs were inadequate, the cohesion in the provision of health services was insufficient and the health care financing system was too fragmented. The Memorandum envisaged a break with corporatist tradition, contending that 'the central government has the general responsibility for a well-structured, democratic and effective system of health services [which] must be anchored in legislation'. Contrary to the prevalent legislation (e.g. the Hospital Prices Act), 'policy should not be left to other agencies, the central government being only able to act repressively.' Instead, 'the central government should establish an overall long-term plan defining the objectives and instruments of policy'. According to the Memorandum, the allocation of health care services should be improved by regional health planning and organizational clustering of services according to a functional ranking system. Cost containment should be

8 Jean-Baptiste Colbert, minister of finance under the French king Louis XIV, is regarded as the founder of the concept of étatisme, which stands for extensive state control and regulation of the economy (Chodak 1989).

9 The Social and Economic Council, which was established in 1950, consists of members from employer associations, trade unions and independents (usually university professors) and has the right to be consulted on all social and economic legislation and policies. Williamson (1985, p. 199) depicts the Council as 'an example of the archetypal corporatist national council of economic interests.'

accomplished by the introduction of legislation to control price and quantity of health services. Accordingly, an ambitious legislative 'triptych' was proposed consisting of a Health Care Facilities Act (WVG) to regulate volume and capacity, a Health Care Prices Act (WTG) to regulate price, and a National Health Insurance Act to introduce a uniform insurance system.

2.5 Implementation of the comprehensive health planning scheme

The implementation of the rational health planning design soon encountered a serious set-back. Due to the fall of the national health insurance scheme, the proposed triptych lost the interlocking panel between price and volume regulation. The resulting lack of coordination between financing, pricing and planning of health care blurred the prospects for a successful implementation of the reform almost from its instigation.

2.5.1 Demise of the national health insurance scheme

In 1975 a preliminary version of a national health insurance bill was leaked. The bill held out the prospect of a compulsory national health insurance scheme with a comprehensive first-guilder coverage that would have been carried out by 26 regional administrative bodies. The proposed scheme encountered strong opposition because of the resulting redistributive wealth effects and the dissolution of private health insurance. Moreover, the socialization of private health insurance would cause a substantial increase in public expenditure, implying a conflict with the objective of macro-economic policy to restrain the growth of public spending. Finally, the Ministry of Finance feared that the introduction of a comprehensive national health insurance scheme in the absence of appropriate instruments to contain costs would result in an uncontrollable health care cost inflation.

Consequently the presentation of the national health insurance bill was suspended. Instead, in 1976 bills on health care price regulation and facilities planning were introduced in parliament. In addition, in 1977 the government started to publish an annual Financial Survey of Health Care (FOG) to get an insight into the financial consequences of health policy measures. Soon these Financial Surveys were used to set a total health care expenditure target to be attained by specified policy measures.

2.5.2 Price regulation: a compromise between corporatism and etatism

Eventually, none of the three bills of the triptych passed through parliament before the next general election in 1977. After these elections a new coalition

cabinet was formed in which the social democrats were succeeded by their political antipole, the conservative liberals. The conservatives strongly opposed national health insurance and consequently the idea was abandoned. Nonetheless, the center-right coalition cabinet endorsed the proposed comprehensive health planning and price regulation bills, although both were substantially amended.

The original version of the Health Care Prices Bill foresaw a radical shift of responsibility for the pricing of health services from corporatist organizations to central government. All prices would have to be based on guidelines issued by the government and would have to be established by a statutory body (the later COTG). Besides, contrary to corporatist tradition, this statutory body would not consist of representatives of the health care field but of independent persons appointed by the government. Not surprisingly, the associations of providers and health insurers were offended by the proposal to diminish their role in the pricing of health services. For both political and ideological reasons the new coalition cabinet substantially modified the Health Care Prices Bill in order to strengthen the role of providers and insurers at the expense of central government. Accordingly, representatives of the providers and health insurers were granted an important say in the formulation of guidelines for the determination of prices, though the government retained the right to give binding instructions to the COTG about the content of these guidelines. Owing to several amendments it was to take until 1982 before the Health Care Prices Act (WTG) came into force.

The finally enacted version of the WTG provided for a much weaker role of the state than the initial bill. From the start, the compromise between collective bargaining by corporatist organizations and direct price regulation by the state suffered from two major weaknesses. Firstly, the representative associations of sickness funds and private health insurers had no incentive to negotiate for the lowest possible prices. Sickness funds were still fully retrospectively reimbursed for their members' medical expenses. Collectively, private health insurers were more interested in high rather than low health care prices because rising health care expenditure would raise their premium income (given the rather inelastic demand for health insurance). Hence, the bilateral monopoly model could be expected to generate outcomes that were close to that of the preferences of the providers. In fact, since the adoption of the WTG the government rather than the insurers' associations have become involved in collective fee negotiations with the provider associations. Insurers are merely spectators in the back seat, watching the outcome of the battle between the government and the provider associations. A second major weakness of the health care prices act was the absence of a firm legal basis for government intervention in health care pricing. Although the government was authorized to give instructions to the COTG

about the determination of health care prices, the legal basis for these instructions turned out to be narrow. After being challenged in court, neither target incomes nor expenditure caps were sustained as a valid reason for state intervention in pricing. Hence, the position of the government vis-à-vis the provider associations was rather weak.

2.5.3 Failure of health care facilities planning

In 1982 the final version of the Health Care Facilities Act (WVG) was passed, which provided a legal framework for the comprehensive decentralized government planning of health services. The responsibility for the planning of facilities was divided among three decision levels. Central government would maintain its responsibility for the planning of highly specialized and interregional health care facilities. Provincial authorities would become responsible for the regional planning of inpatient care and medical specialist manpower planning. In due course the Hospital Facilities Act had to be incorporated in the Health Care Facilities Act. Finally, municipalities would be assigned planning responsibilities for outpatient facilities, including the allotment of GP practices. Provincial and municipal plans had to be based on guidelines, quality requirements, and financial constraints issued by central government. The complexity of the three-tiered planning system made integral implementation infeasible. Hence, the government decided to start with the planning of outpatient facilities, while confining the introduction of comprehensive health planning to demonstration projects in three specific health regions. Before decentralized health planning could take place an appropriate administrative structure had to be developed, involving decisions about territorial divisions, the assignment of duties, the consultative structure and the provision of information. The government expected the preparation of a suitable administrative structure to take one year, so the actual instigation of comprehensive health planning activities in the three chosen demonstration projects was anticipated as beginning in 1984. However, the administrative and organizational problems turned out to be far more complicated than expected. The large number of participants and consultations and the abundance of policy instruments and planning procedures generated a fast growing bureaucracy.[10] As a result of the vast number of administrative and technical problems, the actual instigation of health planning activities was continuously

10 In 1985 the government even proposed to replace the still inoperative WVG by a new bill (WGM) which would have a less complicated administrative structure. Paradoxically, however, the new bill contained an even more comprehensive health planning scheme, encompassing also social services. In fact, the introduction of this bill primarily augmented the confusion and only caused a further delay of the implementation of the original health planning scheme. Therefore, government decided to repeal the bill already a year after its introduction.

postponed. The preparation of the planning process was seriously hampered by mutual distrust and a power struggle between provincial and local governments, providers and insurers (Stevens 1987). In 1986 hospitals and health insurers even decided to withdraw their cooperation from two of the three demonstration projects. Eventually, in 1988 the implementation of the Health Care Facilities Act was suspended and the demonstration projects were formally terminated.

From its conception the comprehensive health planning scheme suffered from two interrelated problems. A first major drawback was the insufficient link between the planning and financing of facilities. The separation of planning and financing decisions originated with the cancellation of the national health insurance bill, which should have provided for a regional health care financing system complementary to the proposed regional planning system. On the one hand, the planning of facilities in the different health regions was largely delegated to provincial and municipal governments and had to be based on need. On the other hand, health care financing decisions were still made by providers and health insurers subject to uniform national guidelines and were mainly based on the existing distribution of facilities. As a consequence the question arose whether decisions about the planning of facilities should precede or should follow decisions about the financing facilities. Of course, local governments supported the primacy of planning decisions and health insurers the primacy of financing decisions. Besides, the Ministry of Health was largely 'captured' by providers who, especially during the 1970s, held many crucial key positions in the civil service.[11] Not surprisingly, these civil servants were supporting the primacy of health planning decisions. On the other hand, the more powerful Ministries of Finance and Economic Affairs were primarily concerned about cost containment and were adhering to the idea that financing decisions should precede planning decisions. The economic recession that emerged in the late 1970s augmented the political pressure to restrain public expenditure, thereby reducing the prospects of a comprehensive health planning scheme which offered no guarantees on cost control.

A second, related problem was the complex distribution of decision power among the different layers of government and the representative organizations of providers and health insurers. Involving the relatively inexperienced local governments in health planning caused a further fragmentation of the already intricate structure of decision-making. Moreover, providers and insurers were unwilling to share power with the provinces and municipalities. Therefore,

11 Hendriks, State Secretary for Public Health from 1973 to 1977, asserted that at that time 'the climate in the ministry still was that in fact each extension was splendid. You should not forget that the department was managed by physicians who were naturally closely related to the medical society' (De Wolff 1984, p. 191).

though the proposed health planning system was aimed at improving the coherence of health care facilities, the split of authority rather had the opposite effect.

Finally, a deficient design was not the only reason for the failure of comprehensive health planning. Increasingly, the effectiveness of far-reaching government planning was called into question. The concept of comprehensive health planning had sprung from the widespread belief during the 1970s that society was to a considerable degree 'malleable' by the government. The optimistic expectations about the effects of etatism were based on the fast expanding welfare state and the success of Keynesian macro-economic stabilization policy. To a large extent the belief in a malleable society was even shared by the conservatives, as appears from the fact that the rather dirigiste health planning concept was also endorsed by a center-right coalition cabinet. At the end of the 1970s the persisting economic recession, escalating government budget deficits and the inability of the government to control accelerating unemployment began to undermine the confidence in the effectiveness of state intervention. In fact, the very year in which the comprehensive health planning scheme was enacted (1982) marked a change-over in political thought about the role of the government in the economy. At the end of that year a new coalition cabinet of Christian democrats and conservative liberals came into force, advocating a 'no nonsense' policy to reduce government regulation and public spending. The 1982-1986 period can be characterized as a transition period in health policy. Efforts to introduce an all-encompassing health care planning scheme were accompanied by an increasing skepticism about the effectiveness of that approach. On the one hand, the slow proceeding health planning process fueled the skepticism about the effectiveness of state intervention. On the other hand, the growing disbelief in health planning and the resulting half-hearted support by central government at least partly contributed to its failure. In 1984 and 1985 two successive advisory committees on deregulation recommended a drastic revision or even a complete withdrawal of health planning legislation (Commissie vermindering en vereenvoudiging van overheidsregelingen 1984, Adviescommissie sanering planprocedures 1985). Therefore, the concept of comprehensive health planning was already more dead than alive, when in 1986 the government decided to install the independent Dekker Committee to find a way out of the deadlock. Not surprisingly, the Dekker Committee again recommended to terminate the implementation of comprehensive health planning. When the government subsequently announced it was to repeal the WVG it encountered hardly any opposition.

2.6 Etatist interventions

The etatist health care planning scheme in the 1974 Memorandum lost its political backing when the center-left coalition cabinet was succeeded by a center-right coalition in 1977. Consequently, the originally envisioned comprehensive health care planning scheme was adapted to leave a more important role for corporatist organizations. The health care prices act and health care facilities act that were eventually introduced by the center-right coalition cabinet can be characterized as an attempt to replace the prevailing consensual-licenced model of corporatism by an authoritarian-licenced model of corporatism.[12] Corporatist structures were no longer primarily established to enhance a degree of consensus but to secure a greater level of state control. However, the lengthy transition process towards the institutionally complex planning design offered the interest associations ample opportunities to reinforce their positions and to counteract effective state control. The apparent failure to introduce an authoritarian-licenced corporatist model of health care planning and financing, forced the government to realize its goals in less sophisticated ways. So, through a series of ad hoc interventions, etatism emerged in another guise to resolve the most urgent deficiencies of the corporatist collective bargaining model.

2.6.1 Interventions in the hospital sector

In the hospital sector government intervention was most pervasive. Interventions were targeted at restricting hospital capacity and limiting hospitals' operating expenses.

Hospital capacity regulation

The absence of effective regional hospital planning urged the government in 1975 to gain control over hospital capacity by imposing an annual maximum expenditure limit for hospital construction. Since 1978, the annual budget was allocated according to a periodically adjusted priority list and put an effective restriction on the expansion of hospital facilities. At last in 1979 a revised Hospital Facilities Act came into force, providing the legal framework for regional hospital planning. The act charges provincial authorities with the

12 Williamson (1985) distinguishes three types of corporatism: consensual-licenced, authoritarian-licenced and contract corporatism. Consensual-licenced corporatism is built on the assumption that a corporatist system will both generate and attain a high degree of consensus about its underlying values and goals, resulting in limited need for the state to exercise control and a notable degree of autonomy for intermediaries and societal actors. By contrast, authoritarian-licenced corporatism is built on the assumption that there is limited support for the underlying values and goals and that the economic and social order will have to be imposed by the state.

planning of hospitals, nursing homes and psychiatric institutions in each of the 27 legally defined health regions. By formal directive of the national government provincial authorities had to develop regional plans according to specific guidelines. Once established, regional hospital plans should provide the basis for government decisions to extend, replace or close down hospital capacity. But it would take until 1988 before government issued directives for each health region to develop a regional hospital plan. A major reason for the delay was the government's intention to incorporate hospital planning in the comprehensive health planning scheme of the Health Care Facilities Act (WVG).
Ever since the late 1960s the average length of stay in hospital has been falling, resulting in steadily declining occupancy rates and a growing excess hospital capacity (see Table 2.2). In 1982 the still non-existent regional hospital plans made the government decide to launch a program to reduce the number of hospital beds. The program effectuated a substantial reduction of the number of hospital beds but at a much lower pace than envisaged by government because several hospitals which were selected to shut down or reduce capacity successfully appealed against that decision. Moreover, despite the reduction of the number of hospital beds, hospital excess capacity was still increasing because occupancy rates continued to fall due to the rapidly declining average length of stay (Table 2.2). Therefore, the government decided to introduce a supplementary capacity reduction program in 1988. In contrast to the previous period, government tried to effectuate the intended reduction of hospital capacity by using its hospital planning instruments. All provinces were given directives to develop regional hospital plans that should be aimed at a prescribed target number of hospital beds per capita in 1995. Furthermore, to encourage the reduction of hospital capacity the government actively supported consolidations of hospitals. Hospital mergers were considered a politically attractive vehicle to reduce the existing excess capacity, particularly since hospital managers were more inclined to support a merger than to shut down hospital wards.
In a review of the effectiveness of hospital capacity regulation, the Dutch General Accounting Office (Algemene Rekenkamer 1990) concluded that regional hospital planning based on the Hospital Facilities Act was far less effective than interventionist measures such as the imposed annual expenditure limits on hospital construction and successive hospital capacity reduction programs.[13]

Budgeting of hospitals' operating expenses
Although in 1982 the Hospital Prices Act (WTZ) was replaced by the Health Care Prices Act (WTG), retrospective output reimbursement continued to be the prevailing method of hospital financing. The open-ended output

reimbursement system provided hospitals with strong incentives to maximize output because the average per diem rate was substantially higher than the marginal cost. The stagnating economy and rising health care costs urged the government to abandon the open-ended reimbursement system. Rather overnight, the government decided to introduce a prospective global budget for hospitals' operating expenses in 1983 (large capital expenditures were not included in the budget). In 1984 all other health care institutions providing inpatient care were brought under the global budgeting system. At first, the budget was fixed and based on the expenditure of the hospital in the preceding year, thus rewarding previously inefficient hospitals while punishing previously efficient hospitals. Therefore, in 1985 part of the budget was made variable to reflect variations in hospital utilization. To determine the variable part of the budget, hospitals and health insurers have to reach an agreement about the number of expected inpatient days, admissions, day-treatment days and outpatient clinic visits per hospital per year. So, hospitals were put at risk for the variable costs of the output above or below the negotiated level. In 1988 the hospital budgeting system was further refined by the gradual introduction of functional parameters to calculate hospital budgets. The purpose of the functional budget system was to relate the hospital budget explicitly to the functions performed in the hospital. The succeeding revisions of the hospital budget system are undertaken to relate hospital budgets more closely to the underlying hospital cost structure. By contrast, however, cost differences of services within the same hospital are still not reflected by the average per diem rates.

The budgeting of hospital operating expenses appears to have been one of the most effective cost containment instruments employed by the government (Maarse et al. 1993). Moreover, empirical findings suggest that hospital budgeting also has resulted in a more efficient use of hospital services (Casparie and Hoogendoorn 1991). Yet the hospital budgeting system suffers from some serious shortcomings. Most importantly, the hospital budget does not take into account the medical specialists who incur a substantial part of hospital expenditure (Tap and Schut 1987). Because medical specialists are beyond the control of the hospital management, cost containment efforts are focused on

13 In a successive review the Dutch General Accounting Office (Algemene Rekenkamer 1991) criticized the cumbersome national government planning of expensive, highly specialized hospital care (e.g. hemodialysis, heart and kidney transplants, neonatology), based on a section 18 of the Hospital Facilities Act. Government decisions requiring hospitals to get a licence for the acquisition of new highly specialized facilities usually take several years, so that hospitals have ample opportunities to purchase such facilities before such a licence is needed. Hence, in several instances slow proceeding government decision-making has even induced a less well-considered introduction and dispersal of highly specialized facilities than probably would have occurred otherwise.

the reduction of non-physician-related operating costs (Saltman and De Roo 1989). As a result of wage contractions (including a government-imposed 3 percent wage reduction in 1984) and a cut back in nurse staffing, hospital labor costs, which account for about two-thirds of total hospital costs, were substantially reduced in the first few years after the introduction of the hospital budgeting system (see Figure 2.2).

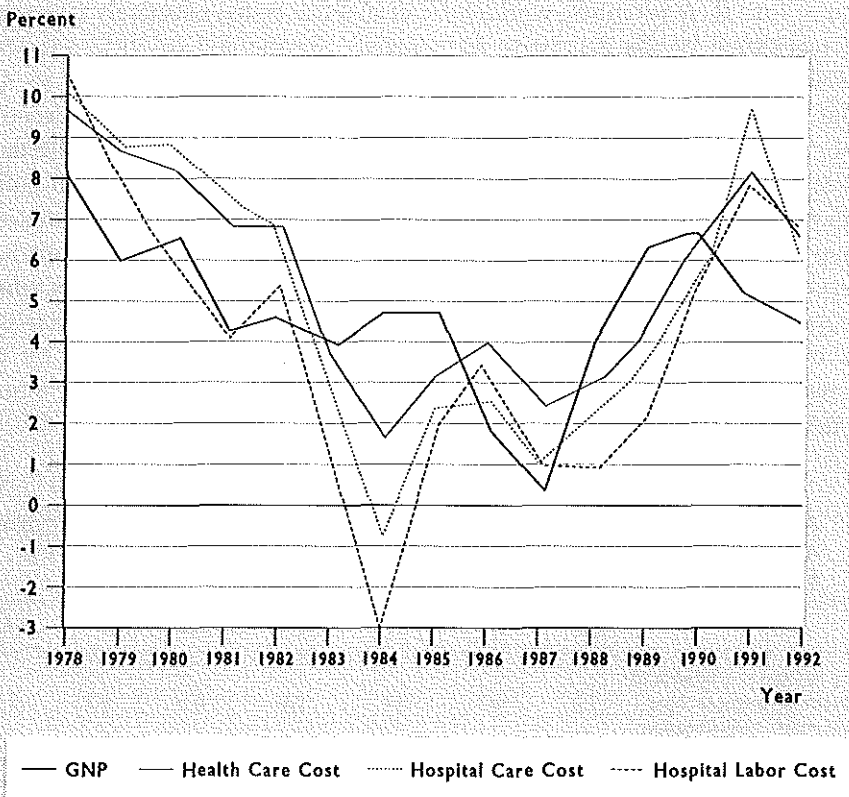
Together with a gradually aggravating patient case-mix, the skimping on personnel caused a considerable increase in the workload of individual nurses. Besides, the unattractive working conditions caused an increasing shortage of health care personnel. In 1989 and 1990 the combination of increasing workload and stagnating salaries provoked major strikes of health care personnel. As a result, salaries were raised and hospital manpower was expanded, causing a substantial rise of hospital labor cost in the early 1990s (see Figure 2.2). A second problem of the hospital budgeting system is that the average per diem rates do not bear any relation to the underlying hospital cost structure. The purely administrative prices result in a misallocation of resources within and among hospitals. A third problem is caused by the fact that differences between the actual hospital revenues and the agreed-upon budget have to be compensated by an adjustment of next years' hospital rates. Because the negotiated hospital output levels tend to be higher than the actual ones, hospital rates are usually set below the level which were to generate the agreed-upon budget. Owing to the complexity of the retrospective clearance system the adjustment of hospital rates is often considerably delayed. The cumulative effect of postponed rate adjustments induces large year to year fluctuations of hospital rates. The unpredictability of hospital rates (and revenues) is frustrating hospital management, government health policy as well as premium calculation by health insurers. Outstanding payments to hospitals amounted to about 14% of total budget for hospital care in 1990 and 1991 and to about 9% in 1992 (WVC 1993b). The make up of these financial arrears in the early 1990s resulted in escalating hospital rates and a substantial hospital cost inflation (see Figure 2.2). Hence, part of the cost containment that is ascribed to the hospital budgeting system merely is cost postponement.

2.6.2 Interventions in medical specialists' fees

With regard to the medical profession, the government increasingly tended to take the place of the insurers' associations at the bargaining table vis-à-vis the provider associations, since the insurers' associations neither had incentives nor sufficient bargaining power to effectuate cost containment.

For more than a decade the government tried to control the fees of medical specialists. Since the early 1980s, fee control was pursued by setting a target level to the earnings of individual specialists. The attempts by the government

Figure 2.2 Annual percentage change of GNP and of cost of health care, hospital care and hospital labor[a]



a Health care cost according to CBS definition. Hospital cost includes total cost of hospital services delivered by general, university and specialized hospitals. Hospital labor cost includes salaries and social security contributions on behalf of hospital personnel.

Sources: CBS, Costs and financing of health care, 1982-1992; WVC, Financial surveys of health care, 1984-1994; NZI (National Hospital Institute), De intramurale gezondheidszorg in cijfers (Inpatient health care in figures), 1989-1993.

to bring down the earnings of high earning medical specialists to a 'socially acceptable' target level heralded a decade of sharp conflicts regarding fees. In 1984, the government and the association of medical specialists (LSV) concluded a General Agreement to reduce above-target earnings by means of a 'degressive fee schedule' for all independent specialists. The degressive fee schedule implied that specialists whose turnover would exceed a certain limit should repay part of the fees for the surplus output (mounting from one third

up to two thirds of the fee). In spite of the formal support by the LSV, the General Agreement was bound to fail because it was not binding upon individual specialists. The refusal of a number of specialists to respond to an inquiry into their revenues, workload and practice costs, effectively frustrated the realization of the degressive fee schedule. By the end of 1989 the total outstanding 'degression debt' of medical specialists had accumulated to 465 million guilders, equivalent to nearly a quarter of their annual gross revenues. Only 3 percent of the projected degression refunds were eventually collected. When outcomes are compared with objectives, the record of government policy with regard to medical specialists' incomes looks rather poor. Price regulation, being the principal policy instrument to control the earnings of medical specialists, was barely successful. Over the entire period (1982-1988) in which the government actively pursued a target income policy for medical specialists, the average fee adjustment exceeded the adjustment as projected by the Ministry of Health in the annual Financial Surveys of Health Care by almost 15 percent (see Table 2.3).

Table 2.3 **Annual percentage change of average fees for medical specialists' services: actual change as compared with intended change as projected by the government**

	1982	1983	1984	1985	1986	1987	1988
Intended fee adjustments because of:							
– Adjustment of target income	2.0	–2.1	–2.5	0.0	0.0	0.0	–2.5
– Adjustment of compensation for practice costs	1.5	0.7	0.0	0.0	0.0	0.0	–2.0
– Reduction of above-target incomes	–0.6	–0.5	–3.0	–3.0	–3.0	0.0	0.0
– Neutralization of health insurance reform effects[a]	0.0	0.0	0.0	0.0	–4.1	–1.3	0.0
Total fee adjustments intended by government policy	2.9	– 1.9	– 5.5	– 3.0	– 7.1	– 1.3	– 4.5
Actual fee adjustments	2.1	– 1.0	– 0.4	– 2.0	– 0.1	– 3.5	– 0.7
Cumulative difference of intended and actual fee adjustments	0.8	– 0.1	– 5.2	– 6.2	–12.8	–10.8	–14.2

a As a consequence of the abolition of the voluntary sickness fund insurance in 1986, the privately insured share of the population increased. This would result in higher earnings for medical specialists because the average private fee was about twice as high as the average fee paid by sickness funds. To counterbalance the unintended effect on specialists' earnings, private fees would have to be reduced accordingly.

Sources: Calculations based on data from WVC, Financial surveys of health care 1977-1991.

Apart from the poor cost containment record, the continuous conflicts had aroused a climate of mutual distrust, which proved to be very counter-productive to other policy objectives. Therefore, in 1989 the government instituted a consultative body of delegates from the associations of specialists, health insurers and hospitals, to develop proposals for a new fee schedule that would put an end to the continuous conflicts regarding fees. The government kept aloof from the consultations.

At the end of 1989 the so-called Five Party Agreement was concluded, containing a number of far-reaching concessions on the part of both insurers and specialists. Most importantly, it was agreed that for the next three years (1990-1992) the total expenditure on specialist care would be maintained at the 1989 level. Any excess of the 1989 expenditure limit would be retrospectively compensated by proportional fee reductions. Secondly, the five parties agreed upon a fundamental restructuring of the reimbursement system. For about 40 years fees had been adjusted only to compensate for general wage and price inflation but the underlying fee composition had remained largely unaltered despite the dramatic changes in diagnostic techniques and modes of treatment. As a consequence, the relation between effort and fee had become obscure. To improve the link between effort and remuneration and to reduce income variations among specialists, the fee structure would be regauged both within specialties and across specialties. Thirdly, the differing fee schedules of sickness funds and private insurers would be gradually harmonized. In return for these concessions by medical specialists, health insurers conceded to remit the outstanding 'degression debt' of medical specialists.

The restructuring of the fee schedule between specialties was achieved by drastic fee reductions (ranging from 12% to 27%) for five specialties, and substantial fee increases (ranging from 10 to 27%) for six other specialties. As before, the fee reductions were challenged in court by the affected specialists but, for the first time, without success. Not surprisingly, the agreement caused a split within the LSV. Primarily those specialists who were most affected by the agreement left the LSV and started a separate association, the Netherlands' Specialist Federation (NSF). From the very beginning, the prospects for the full realization of the Five Party Agreement were bleak. Individual specialists faced the famous Prisoners' Dilemma that tempering the volume of services would be the optimal strategy only if all other specialists would act accordingly, but would be the worst strategy if the others would increase the number of services. Since specialists cannot monitor one another's conduct, the most likely strategy is to increase rather than decrease the number of services. So, the agreed upon expenditure cap was likely to generate a rat race to deliver more and more services in order to offset the effects of expected fee reductions. Hence, it was not surprising that the global budget for specialist care which was concluded

in the Five Party Agreement was substantially exceeded. At the end of the 1990-1992 period the total expenditure on specialist care was about 17% higher than the 1989 expenditure limit (WVC 1993b). Notably, in the three year period preceding the Five Party Agreement expenditure on specialist care increased only by about 6 percent. So, setting a global expenditure cap for specialist care seems to have resulted in cost inflation rather than cost containment, at least in the short run. Although it was determined in the Five Party Agreement that exceeding expenditure limits would be compensated by proportional rate reductions, medical specialists were not prepared to accept a 17% fee discount. Despite the fact that the government was not formally involved in the Five Party Agreement they were the only party that was really interested in realizing the agreed expenditure target. Moreover, the government was the only party who had (limited) power to impose fee reductions by giving instructions to the COTG. Hence, in 1992 and 1993 the government imposed general fee reductions to compensate for the exceeding of the agreed upon expenditure target in 1990 and 1991. Ironically, by enforcing an agreement between specialists and health insurers, the government again became mixed up in a sharp conflict with the medical specialists, while health insurers could confine themselves to sit, watch and await the outcome of the battle.

2.6.3 Interventions in the private health insurance market

During the 1970s, the rapidly increasing cost of medical care undermined the voluntary maintained community-rated premium structure in the private health insurance industry. Once initiated, the process of risk selection and premium differentiation rapidly escalated, eventually making government intervention necessary to guarantee universal access and to preserve social solidarity.

The introduction of age-related premiums in the 1980s increasingly jeopardized access to health insurance for the elderly privately insured population. Moreover, it caused the downfall of the voluntary sickness fund insurance scheme. This scheme provided for community-rated optional health insurance for lower-income groups which were not eligible for compulsory sickness fund insurance. Sickness funds, which were also responsible for the administration of the voluntary scheme, were obliged to accept all eligible applicants at community-rated premiums. Because of the mandatory open enrollment and community-rated premiums, sickness funds could not effectively compete with private health insurers. By offering substantially lower-priced policies to the low-risk groups, private health insurers were able to attract the young and healthy lower-income self-employed away from the voluntary scheme. Hence, the voluntary sickness fund insurance scheme became victim of a deadly spiral of rising premiums and a worsening risk pool. To keep premiums affordable, the government was forced to increase its subsidies to the voluntary scheme from 4.7% of total receipts in 1974 to 11.2% in 1983.

Under the Health Insurance Access Act (WTZ) of 1986, the voluntary sickness fund insurance scheme was officially terminated. In addition, private health insurers were forced to institute a risk pool for subscribers to the former voluntary sickness fund scheme. Private insurers were obliged to offer all applicants from the voluntary sickness fund scheme a legally standardized policy, which covered comprehensive benefits at a legally determined maximum premium. To secure financial access, premiums were set far below their actual medical expenses. Insurers were allowed to charge a uniform levy to everyone who was privately insured to compensate for the resulting deficits. Deficits and levies were pooled. Because ongoing premium differentiation increasingly threatened universal access to health insurance, the scope of the risk pool was steadily expanded by the government. In 1989 the eligibility was extended to cover everyone over the age of 65. In 1991, private health insurers were forced to accept any person who applies for a legally defined standard policy if that person has to pay a higher premium for his current insurance policy. In fact, this measure implied the introduction of a maximum premium for private health insurance. As a consequence of these measures, since 1989 nearly 40% of the private health insurance business has been brought under a mandatory risk pool arrangement (Schut and Van Vliet 1992b).

Although the ad hoc legislation enabled government to preserve universal access, it removed the already small incentives to private insurers to promote the efficiency of medical care. Since all deficits of the legally defined standard policies are pooled, insurers are not motivated to monitor medical claims. On the contrary, the fixed compensation they receive for administrative costs gives them an incentive to pay all medical bills without examination.

2.7 From the state to the market?

Since the early 1970s the main strategy of the government had been to acquire sufficient control on health care expenditure by attempting to introduce a rational health planning design. In pursuit of such a strategy, the government grossly overestimated its own power. Nevertheless, by a number of drastic interventions, the government succeeded to gain substantial control over health care expenditure, resulting in a stabilization of the percentage of GNP spent on health services.

Despite this successful cost containment, there were serious doubts about the long-term effects of the government's expenditure control policy. Although top-down imposed expenditure caps and capacity restrictions could be useful short-term strategies to squeeze the fat out of the system, their long-term effects could obstruct efficient and innovative forms of health care delivery. In addition, the

permanent state of conflict between the government and health care providers was increasingly considered to be counterproductive. Moreover, the successive center-right coalition cabinets, still adhering to the principle of subsidiarity, felt rather uneasy about the increasing reliance on dirigiste health policy measures. The recognition that the government was not powerful enough to enforce comprehensive health planning and the widespread doubts about the long-term effects of unilateral state interventions, let the Dekker Committee to recommend a complete reversal in the attitude of the government towards health care. Instead of accumulating enough power to control the behavior of providers and insurers directly, the government should follow a 'divide and rule' strategy by sharing the responsibility for cost containment with the health insurers. Accordingly, the incentive structure of the health care financing system should be fundamentally changed to motivate health insurers to contain costs (Lapré 1988).

The diffusion of power and diversified interests of the various participants mean that reform is only possible if there is considerable consensus (Elsinga 1989). The need for consensus to accomplish fundamental health care reforms was stressed by the title of the Dekker report: 'Willingness to Change' (WVC 1988). At the time the Committee on the Structure and Financing of Health Care (known as the Dekker Committee) was installed there was a broad consensus that a restructuring of the health care system was necessary. More importantly, consensus not only concerned the necessity but also the broad outline of health care reform. Independent from the Dekker Committee, the three main political parties published reform proposals that were remarkably similar to each other and to the recommendations made by the Dekker Committee. The failure of health planning as well as the prevalent reservations about unilateral state interventions had generated a change in the political climate which overstepped ideological bounds. Just as conservatives at the beginning of the 1980s were supporting comprehensive health planning, social democrats were now in favor of market-oriented health care reforms. The various proposals all stressed the need to transfer responsibilities for cost containment from the government to providers, health insurers and consumers of medical care. Besides, the ideas of the Dekker Committee were not entirely new. The essentials were already laid down in earlier national (Godefroi 1963, Zeven et al. 1973, Van de Ven 1983) and American (Enthoven 1978) reform proposals. In addition, the Dekker report was inspired by the apparent success of Health Maintenance Organizations at the micro-level of the US health care system (Luft 1981, Manning et al. 1984, Schut 1986).

2.7.1 The Dekker plan

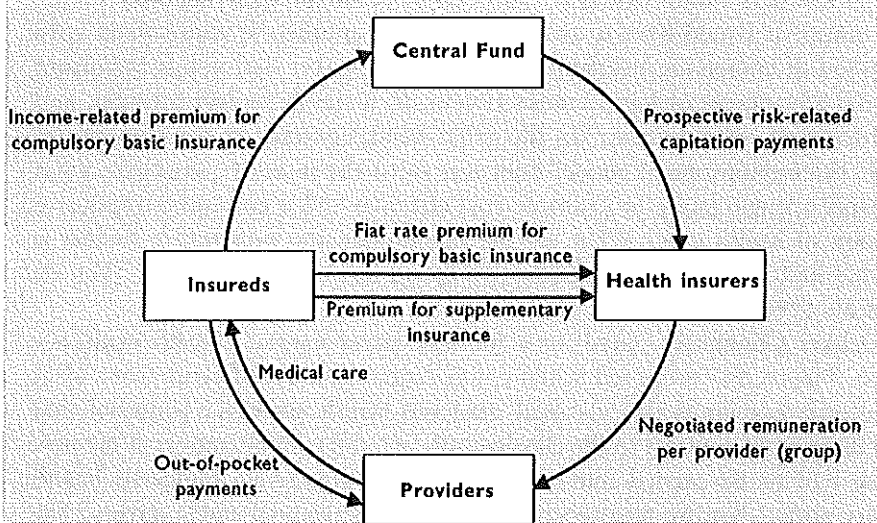
The Dekker Committee recommended replacing the segmented health care financing system with a compulsory national health insurance scheme to cover all 'basic' benefits, accounting for about 85% of the total expenditure on health care and social services.[14] The distinction between sickness funds and private health insurers had to be abolished. Both types of insurers would be allowed to offer compulsory basic health insurance as well as optional supplementary health insurance. The fundamental flaw of the prevailing health care financing system was the lack of incentives for sickness funds and private health insurers to foster an efficient provision of health care. Sickness funds were fully reimbursed for the medical expenses, so they had no stake in a more efficient mode of health care delivery. To give sickness funds incentives to promote efficiency and to contain costs, the retrospective reimbursement system had to be replaced by a prospective budgeting system. The critical question was whether sickness funds would be allowed to maintain their regional single-payer status or would have to compete with one another. In comparison with the option of competing sickness funds, the single-payer option has important potential advantages of lower transaction costs, a simple budget formula, and the absence of risk-selection. On the other hand, contrary to the competitive model, the monopsonistic model does not solve the incentive problem: what motivates a single payer to promote cost-effective and a consumer-responsive provision of health care? What are the sanctions if the prospective budget is exceeded and what are the incentives to spend less than the budget? (Van de Ven et al. 1994a).

The Dekker Committee opted for a multiple-payer national health insurance scheme. Hence, the proposed scheme was fundamentally different from what has become known as the 'classical' national health insurance proposal that failed in 1975. In contrast to the classical scheme, the administration of the new scheme had to be carried out by competing, prospectively budgeted health insurers rather than by retrospectively reimbursed regional single payers. The Dekker proposal hinges on regulated competition among health insurers for policyholders and among providers for (favorable) contracts with health insurers. Given its emphasis on competition, one could, by way of contrast, characterize the new scheme as 'neo-classical' national health insurance, although room for competition is strictly delineated by government regulation.

14 In 1992 the total expenditure on health care and social services accounted for 9.8% of GNP (WVC 1992b). According to the Dekker Committee the mandatory 'basic' benefits should include all inpatient care, preventive care, mental health care, obstetric and maternity care, home health care, elderly care, dental care for children, and social welfare (for a more detailed list, see WVC 1988). For outpatient drugs, medical devices, physical therapy and dental care for adults, people would be free to buy supplementary insurance.

Given the imperfections of the market for health services and the social requirement of universal access, the government has to perform a crucial role in defining the rules of competition in health care.
The reasons for a regulation of competition among health insurers are twofold. Firstly, regulation should prevent rent-seeking behavior by insurers, in the form of socially wasteful risk-selection. Instead, by regulating the incentive structure, competition has to be directed towards promoting efficient health care delivery. Secondly, regulation is needed to assure universal access and to maintain social solidarity (or a reasonable level of equity). Therefore, a redistributive mechanism was devised to fulfill the necessary conditions for both equity and efficiency (see Figure 2.3).

Figure 2.3 **Proposed health care financing system**[a]



a Health insurers can choose between offering service benefits (as in this figure) and indemnification. Income-related contributions should account for 75% (according to the Dekker proposal) or 82% (according to the in 1992 amended government proposal) of total expenditure on health and social services.

Health insurers would be obliged to have open enrollment on a two years cycle. All citizens would be obliged to purchase basic health insurance for a premium that would be split into a large income-related part (up to a certain maximum) collected by the tax department and a small flat rate part that has to be paid directly to the chosen health insurer. By adjusting the progression of the

income-related premium structure any desired level of vertical equity can be realized. The income-related premiums would be collected in a Central Fund which redistributes the money to the various health insurers depending on the number of people insured and the actuarial group (e.g. age, sex, region, health status) they belong to. The risk-adjusted capitation payment to health insurers has to neutralize insurers' incentives for cream skimming. In addition, the capitation payment would motivate insurers to contain costs and to improve efficiency. Insurers can make a profit if the medical expenses of subscribers are lower than the expected costs of people in the same actuarial group. The capitation payment would be set at a fixed amount of money below the average expected costs of the subscribers in each actuarial group. The remainder of the medical expenses on mandated basic benefits (adding up to 10% of total health care expenditure) would have to be paid by the insured parties themselves either as a deductible or as a flat rate premium. Insurers would not be allowed to charge different premiums for identical policies.[15] However, flat rate premiums or deductibles may vary among insurers, depending on their ability to contain costs.

The more successful the insurer contains medical expenses, the lower premium or deductible can be charged to attract applicants. Consumers and representative consumer organizations would have to be supplied with the appropriate information to be able to select cost-effective health insurers. Hence, price competition would motivate health insurers to contain costs and to improve efficiency.

According to the proposals, health insurers have to be furnished with the following three instruments to foster the efficiency of medical care. Firstly, insurers must be given the freedom to contract with selected providers and to differentiate the terms of the contractual arrangements. Hence, the obligation for sickness funds to contract with all relevant providers at nationally determined conditions has to be abolished. In addition, both price and hospital capacity regulation has to be diminished to allow for different reimbursement methods and the establishment of independent outpatient clinics.[16] Secondly, the strict separation between purchasers and providers has to be removed to provide for the development of alternative delivery systems like HMOs. Therefore, insurers must be allowed to employ physicians or to run their own

15 Notice that this requirement does not raise the usual problems of adverse and preferred risk selection provided that the capitation payment falls short by exactly the same absolute amount of money needed to cover the expected costs of each individual.

16 Notice that the obligation for sickness funds to contract with any willing provider in their region was enforced by the medical association to combat HMO-like organizations which were prevalent in the Netherlands during the prewar period. The 'any willing provider' provision was certainly not adopted because the public opposed lock-ins, as was wrongly asserted by Glaser (1993).

health care institutions. Thirdly, to encourage the use of the lowest cost substitutes, the Dekker Committee recommended describing standardized benefits in functional instead of institutional terms. This implies that future health insurance legislation should specify only the type of care that is covered and not, as in the present legislation, by which type of provider or facility that care has to be delivered. The choice of providers and facilities is left to the health insurer. Thus, although insurers have to cover standardized benefits, the actual insurance policies may differ according to the way health services are delivered.

The Dekker proposal offered not only a theoretically elegant blueprint of an equitable and efficient health care system but also an ingenious political compromise. In fact, the proposed reform had appealing aspects for virtually all interest groups and political parties. The Christian democrats were happy with the reconciliation of cost containment within the principles of social solidarity and subsidiarity; the conservative liberals were cherishing the idea of market competition and the dismissal of the planning model; the social democrats and the unions were content with national health insurance, and the consequent removal of the class distinction between sickness funds and private health insurance; health care providers enjoyed the prospect of getting rid of detailed government planning; sickness funds were applauding the increased freedom and responsibilities; and private health insurers were pleased with the opportunity to expand their market. So despite its radical design the Dekker proposal initially got nearly unanimous support. Of course, each of the participants opposed some aspects of the reform proposal, but that opposition was not united. The most controversial issue was the percentage of total expenditure that should be financed by income-related premiums. The Dekker Committee opted for an income-related proportion of 75%, conservatives favored 60 to 70%, Christian democrats 80%, and social democrats 90%.

2.8 Implementation of market-oriented health care reform

To find an appropriate strategy in order to implement the proposed health care reform proved to be very difficult. It took the government about a year to present in 1988 its final plan to implement the health care reform, which was laid down in a letter to parliament, optimistically entitled 'Change Assured'. The Exceptional Medical Expenses Act (AWBZ) was chosen as 'carrier' of the health care reform, because it already was a national health insurance scheme. Gradually all basic benefits would be brought under the scope of the AWBZ. Both sickness funds and private health insurers would remain responsible for the provision of the benefits which were transferred to the AWBZ. However,

instead of the usual retrospective reimbursement, they would receive a prospective budget for the provision of those services. Parallel to the transfer of benefits to the AWBZ, the other changes as proposed by the Dekker Committee would be successively implemented. The government's timetable envisioned full implementation of the reforms by 1992. In 1989, the first step in the implementation process was made by the transfer of some benefits (medical devices and psychiatric care) from conventional health insurance to the AWBZ and by the introduction of a flat rate premium alongside the income-related premium in the sickness fund sector. Moreover, a cautious start was made to put sickness funds at risk for the medical expenses of their subscribers. Shortly thereafter, the center-right coalition cabinet fell. Although the next cabinet was a center-left coalition, the basic principles of the reform were left intact, which illustrated its broad political support. In 1990 the new coalition cabinet advanced its own, slightly modified proposal, entitled 'Working on Health Care Innovation' (WVC 1990a), which soon became known as 'Plan Simons', named after the State Secretary for Health. The original optimistic timetable was replaced by another, postponing the completion of the health care reform to 1995. The main deviation from the previous proposal was an extension of mandated coverage from 85% to 96% of the total expenditure on health care and social services. Apart from the traditional social democratic ambition to promote equity, the extension of the basic benefit package was also motivated by the fear that the exclusion of outpatient drugs and physical therapy, as proposed by the previous cabinet, would result in serious problems like risk selection and inefficient substitution of medical resources (e.g. admitting patients to hospitals because they are not covered for outpatient drugs). Moreover, the average flat rate premium (or deductible) for compulsory basic health insurance was increased from 10% to 14% of total expenditure on health care and social services, thus increasing the room for price competition in the principal segment of the health insurance market. Despite the valid reasons for the extension of the mandated basic benefit package, it provoked an increasing opposition to the health reforms. Employer organizations, private health insurers, the conservative liberal party and, most important, the right wing of the Christian democratic party considered the extension of compulsory insurance a disguised 'socialization' of the health insurance system. In parliament the Christian democratic party tried to impede the reforms' progress.

Notwithstanding the increasing opposition, a second stage in the health reform was reached in 1992, when a number of critical changes were finally implemented. Major impediments to competition among providers were removed by the abolition of the obligation for sickness funds to contract with any willing provider within their region and by the introduction of maximum instead of fixed prices for health services. In addition, the regulation of the establishment

of GP practices was suspended. Complementary to the elimination of barriers to competition among physicians, legal obstacles to competition among sickness funds were suspended too, by annihilating the legally protected boundaries of sickness fund regions. Some room for price competition was created by allowing sickness funds to differentiate their (still moderate) flat-rate premiums. Moreover, entrance to the sickness fund market was unlocked by permitting several private health insurers to establish their own sickness funds (as separate legal entities).[17] Finally, outpatient prescription drugs and several minor benefits were transferred from the sickness fund and private health insurance to the AWBZ.

2.8.1 Negative wealth effects: a major political stumbling block

Although the transfer of benefits to the AWBZ probably was the least fundamental change, it soon became a major stumbling block to the further implementation of the reforms. The negative wealth effects for middle and higher income groups, emanating from the replacement of risk-related premiums by income-related contributions for the transferred benefits, attracted a huge amount of public attention. Moreover, private health insurers were not inclined to adjust their premiums downwards to compensate for the reduction of private coverage. In refusing to lower their premiums a major conflict arose between the private health insurers and the State Secretary for Health. After an independent inquiry conducted by two consultancy firms and the Dutch General Accounting Office (Algemene Rekenkamer 1992), the conflict was settled, leaving the public with the wrong impression that private health insurers were basically right.[18] The clash between the government and private health insurers had not only substantially delayed the implementation of the reforms but also had a negative impact on the public opinion about the

17 Notice that until all benefits are transferred to the AWBZ, sickness funds and private health insurers will be operating in legally-separate markets. Contrary to Glaser's assertion the privately insured are not allowed to buy insurance from a sickness fund and thus the large competitive private market has not been eliminated at all. Hence, his contention that 'the Dekker exercise unintentionally implemented the centre-left agenda of the 1970s' (Glaser 1993, p. 809) is based on a misunderstanding.

18 The Ministry of Health contended that private health insurance premiums could be reduced by 15 to 30 percent. By contrast, private health insurers maintained that private premiums could not be reduced at all. The General Accounting Office (GAO) set out that the calculations of the Ministry of Health were based on the wrong figures. Although the GAO suggested that a premium reduction was feasible, it did not specify its extent. Schut and Van Vliet (1992a) estimated that an average premium reduction of 7 to 12 percent would be possible. Two years later, the Dutch Insurance Chamber, charged with the supervision over private insurance companies, concluded that private health insurers indeed had reduced their premiums with on average 9.6 percent (Verzekeringskamer 1994). Hence, competition had forced insurers to reduce premiums, presumably in particular those of group contracts.

government's capability to manage the reforms. The unexpected escalation of health care expenditure in 1991 and 1992 (largely due to accumulated arrears in hospital financing) further contributed to the deterioration of the public image of health care reform. In 1992 the government announced in a letter to parliament that it intended to postpone a further implementation of the reforms (WVC 1992a). In 1993 a bill was introduced in parliament which specified major steps to be implemented in 1996, but with the prospect of the May 1994 general elections in view a parliamentary discussion of the bill was suspended. The reform strategy of gradually expanding AWBZ coverage as a means of integrating sickness fund insurance and private health insurance into a single national health insurance scheme, turned out to be an unfortunate choice. The chosen strategy was not only administratively and technically complicated, but also politically very risky because of the resulting redistributive income effects. Moreover, the benefits that were traditionally covered by the AWBZ, such as psychiatric hospital care and institutional care of the mentally handicapped, are especially those services that appear to be least suited for a market-oriented approach because there are no (or not enough) prudent buyers to motivate competing insurers to provide efficient, high quality care (Van de Ven and Schut 1994). Given these problems, it is not surprising that the new coalition cabinet, which came into office in August 1994, opted for an alternative reform strategy (Coalition Agreement, August 13, 1994). Instead of expanding the AWBZ, the new cabinet aims at a convergence of sickness funds and private health insurers by parallel reforms of both insurance sectors (such a 'double-Dekker' strategy was proposed earlier by Schut and Van de Ven 1989). According to the 1994 Coalition Agreement, the AWBZ must remain a separate national insurance scheme and will eventually be restricted to cover (again) only catastrophic risks.

2.8.2 Risk-adjusted payments: the Achilles' heel of the reform

Apart from the politically sensitive problem of mitigating the reforms' effects on the income distribution, a number of major problems are responsible for the slowing down of the reform. Probably the most vexing problem is the lack of a sufficiently refined prospective payment mechanism to reimburse health insurers for the medical expenses of their subscribers. Capitation payments to health insurers should account for predictable variations in individual health care expenditure to guarantee a fair distribution of funds and to prevent risk selection. Ideally, capitation payments to health insurers should mimic the price mechanism of a perfectly competitive market, tailoring payments to risk categories accurately enough to prevent rent-seeking behavior through the cream-skimming of favorable risk groups. In other words, the capitation payment system should be refined to such an extent that the costs to insurers of selecting and attracting favorable risk groups outweigh the potential benefits.

Hence, the problem is what risk factors should be included in the capitation payment formula. Adequate risk adjustment is critical to the success of the Dutch health care reform (Van de Ven and Van Vliet 1992) as well as to reforms in other countries, such as the proposed Clinton Plan in the US (Newhouse 1994), the NHS reforms in the UK (Matsaganis and Glennerster 1994) and the 'Gesundheidsstrukturgesetz' in Germany (Schneider 1994).

Without an adequate risk-adjusted capitation payment system there will be no effective pressure from demand, in which case workable competition in health care will turn out to be an illusion. In the Netherlands government officials and health policy makers have severely underestimated the importance of the risk-adjusted payment system. Adhering to the supposition that the payment system had to be administratively simple, they opted for a crude formula, comprising only age, sex and location. Research has shown, however, that such a formula is clearly insufficient because it explains only 15% of the maximum predictable variation in individual health care expenditure (estimated to be between 14 and 20% of total variation) (Van Vliet 1992). Additional risk factors that should be incorporated in the capitation formula appear to be prior utilization combined with diagnostic information, disability, functional status and indicators of chronic medical conditions. Since 1993 sickness funds have received a partially risk-adjusted per capita payment from the General Fund. In addition, each sickness fund was permitted to determine its own flat rate premium. However, the per capita payments did not adequately reflect predictable variations in risk because they were only based on age and gender. Therefore, sickness funds were put at risk for a small fraction of the difference between revenues and expenses. The political preference for a crude risk-adjustment formula resulted in insufficient investments in data collection and research on improvements in risk-adjustment technology. The status quo with regard to the risk-adjusted payment was strongly supported by the private health insurance industry. Private health insurers were very reluctant to cooperate in developing a workable formula because they fiercely opposed the idea that the government would determine a substantial part of their revenues. From the beginning they stressed that the risk-adjustment formula had to be simple because otherwise it would result in an unduly expensive and bureaucratic system which would remove all incentives for competition. In fact, however, a refined capitation system would not remove incentives for competition rather incentives for risk selection. In comparison to sickness funds, private health insurers not only had favorable risks in their portfolio but they also had far more experience with risk rating and cream skimming. Therefore, the private health industry would greatly benefit from a crude risk adjustment formula.

Health policy makers within the department of health, lacking sufficient actuarial know-how, appear to have been 'captured' by the line of argument of

private health insurers. Moreover, in 1992 the private health insurers were in a strong position because they won, at least in the public's opinion, the battle with the State Secretary for Health (Simons) about the appropriate adjustment of private health insurance premiums. The conflict was settled in November 1992 by a formal agreement in which both parties conceded to consult an independent committee for a 'second opinion' about the proposed changes to the health insurance system. However, one of the three members of the committee was a former member of the board of the largest private insurer in the Netherlands, who was a downright adversary of the idea of a risk-adjusted capitation payment system for insurance companies. In May 1993 the committee published a report in which the introduction of a refined risk-adjustment payment system for health insurers was characterized as an ill-fated strategy resulting in perverse incentives to insurers (Bruins Slot et al. 1993). Instead, the committee proposed to simplify the payment formula even further by distinguishing only two age categories (over and under 65-years old) in differentiating the capitation payments made to insurers. Since the committee's arguments lacked any empirical underpinning they were not taken very seriously by insiders. But it certainly contributed to a further delay in necessary investments to improve the risk-adjusted capitation formula. Moreover, it resulted in a further decline in political backing for the health reform.

2.8.3 Anticipatory conduct: cartelization and consolidation

The status quo with regard to the development of an adequate risk-adjusted payment mechanism diminishes the effect of other measures to create managed competition in the Dutch health care system. Without appropriate financial incentives for health insurers it was hardly surprising that the repeal of the legal obligation for sickness fund to contract with any willing provider and the substitution of legally fixed fees with maximum fees had little if any effect. In addition, the historically determined structure of the health insurance and health services markets and the long-standing bilateral monopoly of providers' and insurers' associations facilitated collusion and concentration. Price competition in health care had been totally absent during the postwar period. Decisions about the allocation of health care resources were made through consultations between the government and corporatist organizations of providers and health insurers.

Besides, as argued by Zweifel and Eichenberger (1992), there is only a thin line between medical corporatism and cartel management. They put forward several reasons why the payoffs to cartelization are particularly large and the cost to the medical profession in forming and maintaining a cartel are relatively low compared with other professional groups. In the Netherlands the position of physicians is particularly strong because they can effectively control market

entry. Medical school graduates can only register as a GP or a medical specialist after finishing specific training programs. The capacity of the training programs as well as the criteria for registration are largely determined by the professional associations. Hence, it is hardly surprising that providers and insurers anticipate the deregulation of their legally protected cartels, replacing them with similar private cartels. For instance, in 1994 the association of pharmacists successfully obstructed attempts by some health insurers to differentiate remuneration rates and other contractual conditions by forming regional cartels. The national association of GPs fortified their regional organizations to create strong regional cartels in negotiating contractual terms with health insurers. Sickness funds still charge the same flat rate premiums, although they are allowed to charge different premiums (in 1993 nearly all the sickness funds concluded a formal agreement to charge the same premium, which was terminated after the Ministry of Economic Affairs made clear that it would be forbidden because of horizontal price-fixing). Furthermore, a rapid concentration is taking place both in the hospital and in the health insurance market (see Chapter 5). Although a consolidation of health insurers is necessary to provide them with sufficient countervailing power, there is some risk that eventually regional private monopsonies may emerge, which are likely to have adverse welfare consequences (Pauly 1988b).

Until the early 1990s, the Netherlands had a very lenient competition policy. In a recent economic survey of the Netherlands, the OECD (1993, p. 57) concludes that as a result of the lack of an effective competition policy and the corporatist institutional setting of Dutch society 'many sectors of the economy are enmeshed in a web of restrictive agreements, regulations and barriers to entry, and the degree of competition, at least in many of these sectors, seems to be low.' Without an effective antitrust policy to counteract mergers and collusion and effective measures to reduce the control of the medical profession over market entry, the attempt to introduce managed competition in health care may well turn out to be a self-defeating policy (see Chapter 6). In recent years, however, the accelerating European economic integration process have forced government to change its permissive attitude towards cartels, which resulted in general prohibitions of horizontal price-fixing (July 1993) and of market-sharing agreements and collusive tendering (June 1994). The more stringent competition policy is also beginning to affect the health care sector. For instance, in May 1994 the Ministry of Economic Affairs took action against a boycott of a mail order pharmacist by a cartel of pharmaceutical wholesalers. Despite resistance at the level of their representative associations, individual health insurers, providers and institutions are anticipating the more market-oriented environment. Since the early 1990s we have seen a remarkable rise in activities concerning quality assurance. Hospitals, home health care agencies

and rehabilitation centers are developing product definitions to calculate more cost-related output prices. Electronic data interchange (EDI) projects are being developed, aimed at a better cooperation among providers and between providers and insurers. Sickness funds are reorganizing their internal structure from a purely administrative organization into a more entrepreneurial one and private health insurers are acquiring personnel with medical skills. Finally, sickness funds have broken the price cartel for some medical devices, thus obtaining substantial price reductions, and are also trying to break the pharmacists' cartel by contracting with mail order firms and other alternative pharmaceutical distribution channels. So far, the credible threat of competition has accomplished a substantial change of behavior among providers and insurers, even though the implementation of reform is proceeding much slower than originally envisioned.

2.9 Balancing between corporatism, etatism and market mechanism

The lack of appropriate incentives for insurers and the cartel behavior of both insurers and providers made the government very reluctant in relinquishing its policy instruments to contain health care expenditure. In the early 1990s the conjunction of an economic recession and accelerating health care expenditure even urged the government to move in the direction of etatism rather than competition. Ironically, the liberalization of the Health Care Prices Act (WTG) in 1992 provided the government rather unintentionally with a powerful tool to impose fee reductions. Under an amendment to the WTG which was proposed by the Christian democratic party (and initially opposed by the government), the government was empowered to give instructions to the Central Office on Health Care Prices (COTG) to reduce fees in order to realize politically determined expenditure targets. Only after the amendment passed the Second Chamber of parliament the Christian Democrats realized that the amendment would result in a considerable shift of power from the corporatist organizations to the government. When they subsequently questioned this unintended effect of the amendment in the Senate (or First Chamber of parliament), the State Secretary for Health, Simons, swiftly promised that he would use this power only in 'very exceptional circumstances' (Eerste Kamer 1991, p. 1084). In practice these very exceptional circumstances would soon turn out to be very common. Two years after the parliament passed the amendment, the government had already used the new instrument fifteen times by imposing fee reductions on a variety of health care providers, such as medical specialists, physiotherapists, pharmacists, and dentists. So, paradoxically, the main impact of price deregulation in health care has not been a

reinforcement of the role of the market mechanism but that of the state. Not surprisingly, this unintended swing toward etatism raised considerable opposition from the associations of providers and health insurers. Most imposed fee reductions are challenged in court, but so far without success. Even the Central Office on Health Care Prices raised its voice against the unilateral government instructions to reduce fees.

Moreover, spurred by a looming economic recession, politicians increasingly began to worry about the potential inflationary effects of the reforms on total health care expenditure. While it is broadly accepted that the reform may increase efficiency (or reduce unit costs), there is less confidence about its ability to contain total cost of health care. The downward effect on total expenditure of reduction in unit costs may well be outweighed by opposite effects of an improvement in quality, service and availability (e.g. reduced waiting lists) and higher administrative costs. Macro-economic considerations require containment of *public* health care expenditure rather than total health care expenditure. If total health care expenditure rises, government can still control public health care expenditure by limiting the total amount of capitation payments to insurers or by contracting the mandatory benefit package. However, such a strategy will have adverse effects on equity, since health insurers will have to respond by raising the flat rate premiums for compulsory insurance or for (extended) supplementary coverage. Equity considerations, therefore, may limit the possibilities of a strategy of shifting the burden from public to private financing.

The lack of experience with managed or regulated competition in health care makes it difficult to predict its eventual performance in terms of cost containment at system level. Hence, the question arises to what extent government should retain its traditional instruments to contain costs, such as setting global expenditure limits, restricting capital investments and restraining the diffusion of expensive medical technologies. Since the Clinton administration's health care reform proposal combined managed competition and global budgets as a kind of a backstop cost containment mechanism, the feasibility of such a blend of seemingly conflicting organizing principles is heavily debated in the US (Starr and Zelman 1993, Enthoven and Singer 1994). Given the uncertainties about the short-term and long-term effects of regulated competition in health care, it would be unwise to abandon all traditional cost containment tools. Rather, the government should retain these instruments as kind of emergency brake and should specify under which conditions they are to be used.

A new, satisfactory balance between corporatism, etatism and competition in the organization of the health care system has yet to be found. In fact, the balance can still dip in two directions. On the one hand, the government may

proceed with a top-down regulation of the health care delivery system. In this scenario the government will continue to impose fee reductions and budgets on providers and to negotiate directly with provider associations. Health insurers will eventually become regional administrative bodies. On the other hand, the government may exploit its gain in power to force corporatist organizations to comply with market-oriented reforms, in which case health insurers will become prospectively-paid purchasing agents on behalf of their subscribers. A decisive condition for the direction of future health policy will be the willingness of health insurers to cooperate in developing a workable risk-adjuster mechanism. Without the prospect of a workable risk-adjusted payment system for health insurers, the government can be expected to tighten rather than loosen its control over prices and capacities in the health services sector. A neccessary precondition for successful reform is a reorganization of the decision-making structure in health care. In 1993, the general frustration about the slowly proceeding health care reforms provoked the parliament to appoint a committee (known as the Willems Comittee) to investigate the reasons behind the cumbersome decision-making process in health care. Among other things, the Committee criticized the 'obscure entanglement of interests and responsibilities' as one of the major impediments for reform. According to the committee, 'the government should take its responsibility in bursting the extremely complex advisory and consultative structure in the health care sector' (Willems et al. 1994, p. 61). In a letter to parliament of December 1993, the government proposed a fundamental reorganization of the decision-making structure in order to disentangle advisory, administrative and superintendent functions. In addition, several other factors contribute to decline of the role of corporatist organizations in health policy. International developments, such as the European unification process, require a harmonization of different policy styles of EU member states. For instance, the previously very lenient Dutch competition policy has been considerably reinforced under pressure from the European Commission (see Chapter 6). Nationally, far-reaching proposals to reorganize the welfare state and to cut down the number and role of advisory bodies, steadily undermine the corporatist institutional structure. The dislodging of Christian Democrats from government in 1994, for the first time since 1918, is also likely to contribute to a reduction of the role of corporatist organizations in policy making. Van der Grinten (1993) argues that as a result of consolidations, scaling up of health care organizations and new patterns of regional cooperation, new policy networks will emerge, which will reduce the role of the traditional corporatist organizations in decision-making. Together, these changes may increase the adaptive efficiency needed to bring about fundamental changes in the incentive structure of the Dutch health care system.

2.10 American health reform upside down

Dutch health care reform has similar basic features to the health care reform which was proposed by the Clinton adminstration in the US: national health insurance and regulated (or managed) competition among insurers and among providers. A brief comparison is made to assess the feasibility of health care reform in one country relative to the other.

Despite the similar underlying concepts, the starting point of health care reform in both countries is fundamentally different. In the US the starting point is a fragmented and unregulated competitive health care system with an accompanying lack of universal access to health insurance and health services. The key problem is how to move from an unregulated 'nonsystem' to a regulated (or managed) competitive system which enhances both equity and efficiency. On the contrary, in the Netherlands the starting point is a regulated non-competitive system with universal access but without incentives for improving efficiency and innovation. The key problem is how to move from a non-competitive to a manageable competitive system which enhances efficiency and innovation while preserving equity. The challenge is to escape from the corporatist trap, which has resulted in a structural stalemate. Looking at the opposite points of departure the Dutch health care reform is like a negative of the Clinton plan.

Health care reform in both countries encounters huge implementational challenges. For several reasons, however, the odds of a successful implementation are probably better in the Netherlands. Firstly, the starting point in the Netherlands seems to be more favorable to that in the US. Redesigning the overly structured health care system in the Netherlands seems to be easier than structuring the fragmented system in the US. Moreover, competition in health care can only be in the public interest if universal access to basic health services is guaranteed. Hence, in the Dutch health care system, in which universal access has been realized, workable competition may be easier to accomplish than in the US health care system, in which severe access problems have emanated just because of unregulated competition.

Secondly, the Clinton plan is even more complex and encompassing than its far from simple Dutch counterpart. Whereas the Dutch reform is built upon the existing institutional framework, the Clinton plan requires the creation of entirely new and powerful organizations like the National Health Board (NHB) and the Regional Health Alliances (RHAs). Besides, in the Netherlands the new tasks assigned to existing agencies are much simpler than the myriad of complex tasks to be entrusted to the new authorities in the US (Cohodes 1994). For instance, in the Netherlands the long-established Sickness Fund Council will have to perform a number of tasks which are comparable to those of the

proposed RHAs. Like the RHAs, the Council will be responsible for the operation of the risk-adjuster mechanism (or the administration of the Central Fund) and for monitoring the health insurance companies. Contrary to the RHAs, however, the Council does not operate as purchasing entity or single point of entry. Notice that in the Dutch health reform there is no purchasing cooperative as an intermediary between consumers and insurers. In the Netherlands there is less need for such an intermediary because informed consumer choice is facilitated by the moderate number of health insurers. At present more than 60% of the total population (of about 15 million people) is insured with one of the six largest corporate joint ventures between sickness funds and private health insurers. It is generally expected that due to further consolidations only 10 to 15 major health insurance companies will be left when the formal separation of sickness funds and private health insurers is abolished. By contrast, in the US the number of insurance companies is excessively large, resulting in high administrative costs (because providers must deal with reimbursement by so many payers), strong incentives for cream skimming, insufficient countervailing power vis-à-vis providers and an untransparent health insurance market which makes purchasing cooperatives imperative.[19] In pluralist health care systems, the prospects of the development of new institutions which are entrusted with complex and critical tasks are grim. The Dutch experience with the introduction of a new institutional structure for comprehensive health planning as well as the US experience with the establishment of Certificate of Need (CON) authorities and Health System Agencies (Cohodes 1994) are instructive about the potential failure of such efforts.

Thirdly, although the government's position within the Dutch corporatist health care system is anything but strong, the position of the American government appears to be considerably weaker (Morone 1994). Even substantially modified compromises failed to be passed by the Congress, despite the majority of Clinton's own Democratic party in both the House of Representatives and the Senate. Interest groups are deeply entrenched in the American pluralist decision-making process. The diffuse benefits as opposed to the concentrated transitional costs of the reforms made them very vulnerable to attacks by the

19 Greenberg (1992) argues that there are four major impediments for a rational shake-out of small inefficient health insurers. Firstly, 'any willing provider' laws in a number of states ban insurers from selective contracting. Secondly, most-favored nation clause prohibitions in some states prevent large managed care plans from contracting hospitals and physicians for the lowest price. Thirdly, the federal McCarran-Ferguson Act provides partial antitrust exemption for insurance firms, which permits inefficient insurers to survive. Fourthly, Blue Cross and Blue Shield Association's territorial licensing restrictions curtail the expansion of the more efficient plans and protect the less efficient plans.

affected interest groups. Moreover, the complexity of the reforms made it difficult to sell them to the American citizenry (Skocpol 1993).
Perhaps the only point in favor of the Clinton Plan or similar reform proposals is the much stronger need for reform in the US than in the Netherlands. The relatively rapid rising cost of health care and declining rates of coverage are hurting an increasing part of the American society, which paved the way for radical health care reform. By contrast, in the Netherlands the need to reform the health care system is not that urgent and the majority of the population is quite satisfied with the present health care system.

2.11 Conclusion

In the corporatist Dutch health care system, decision-making is the outcome of what is known as consensus policy. The Christian democrats, who have dominated politics throughout this century, have deliberately rendered (or transferred) as much power as possible to representative organizations of providers, health insurers, employers and employees. These organizations are officially involved in the major advisory bodies and other quasi-governmental organizations, which play a determining role in the decision-making process. Within this complex structure of checks and balances, neither government nor any of the major interest groups has enough power to accomplish fundamental changes independent from the others. However, each of them has sufficient influence to obstruct the others' initiatives. Unilateral government intervention can only succeed if self-regulation clearly fails. As a result, Dutch health care policy is characterized by a slow and cumbersome decision-making process, resulting in piecemeal adjustments to the health care system.
During the postwar period, the gradual transformation of the Dutch health care system was twice interrupted by attempts to introduce radical reforms based on rational designs: the 1974 comprehensive health planning scheme and the 1987 blueprint of a pro-competitive national health insurance scheme. In both instances, the breakthrough of the status-quo could only happen because a number of concurrent factors culminated in the general perception that fundamental change was imperative. The support of comprehensive health planning by the government emanated from a combination of a stagnating economy, escalating health care expenditure, a general confidence in the potential of government policy, and a coalition government dominated by social democrats. Despite its initial support, comprehensive health planning failed almost completely. Participants in the health care field were not inclined to transfer power to the government, which in turn did not possess sufficient authority to impose a command-and-control planning model all by itself. In

fact, the encompassing planning concept was too alien to the corporatist organization of health care financing and delivery, and in the course of time even got only half-hearted support from the government itself. Nevertheless, since the collective bargaining between insurer and provider associations would not result in cost containment because neither party had any incentives to control expenditure, the government was forced to impose expenditure caps on hospitals and fee controls on medical specialists to attain its macro-economic cost containment targets.

The reasons behind the 1987 reform proposal were the failure of health planning in combination with growing dissatisfaction with the impact of state intervention, the breakdown of the private health insurance system, and the apparent lack of incentives for efficiency and cost containment for both providers and insurers. The present reform is focused on fragmenting the collective bargaining model by giving individual insurers and providers more latitude and incentives to improve efficiency and control costs. By altering the incentive structure, the government aims at sharing the responsibility for cost containment with providers and insurers. To preserve universal access a redistributive financing mechanism has been devised. Although the reform proposal was applauded as an ingenious political compromise because of its appealing aspects for virtually all interest groups and political parties, its complexity requires a careful and prolonged implementation process. Successive reform measures usually generate diffuse long-term benefits to society but concentrated short-term costs to vested interests. Hence, interest associations constantly try to counteract measures they consider to be potentially harmful, which is likely to be successful in absence of a strong state.

In sum, the corporatist organization of the health care system proved to be quite resistant to *radical* attempts to reform the health care system. But by obstructing fundamental reforms, the corporatist organizations provoked a largely unplanned process of creeping etatization. Without a reorganization of the decision-making process itself, a new, more satisfactory balance between corporatism, etatism and market mechanism in the organization of health care cannot be achieved.

3

Costly risk classification in competitive insurance markets

Summary

This chapter introduces the possibility of costly risk classification in the Rothschild-Stiglitz (RS) model of a competitive insurance market with asymmetric information. It is shown that imperfect risk classification is feasible when insurers or the government have sufficient foresight to endorse an agreement about the calculation of risk premiums. In comparison to the RS model, the resulting equilibrium is not only more likely to exist but also Pareto superior. Hence, agreements on risk premium calculation may improve efficiency and stability of competitive insurance markets, providing a rationale for the recently granted exemption for such agreements from EU rules of competition.

3.1 Introduction

An important feature of insurance markets is the presence of an asymmetric distribution of information among sellers and buyers of insurance policies. The potential consequences of asymmetric information for the equilibrium in competitive insurance markets were first examined by Rothschild and Stiglitz (1976) (hereafter referred to as RS). RS show that in a simplified competitive insurance market informational asymmetries give rise to adverse selection with the following disturbing results: (1) Nash-type behavior does not sustain a pooling equilibrium nor a separating equilibrium if the proportion of high risk individuals is smaller than a certain critical level; (2) Even if a competitive equilibrium exists it is only second-best, since the presence of high-risk individuals exerts a negative externality on the low-risk individuals by inducing them to buy less than full coverage; (3) Nash-type behavior does not allow for the existence of pooling equilibria; the only feasible equilibria are non-subsidizing self-selection contracts which specify both price and quantity of

coverage. Therefore, the use of imperfect risk classification resulting in subsidization of high risk individuals' insurance purchases by low risk individuals is inconsistent with pure Nash behavior.

The absence of pooling contracts and imperfect risk classification in competitive insurance markets with asymmetric information does not seem to correspond to empirical observations. Although many (household) insurance markets[1] are characterized by strong competition among a large number of sellers, low entry barriers and small profit margins, imperfect risk classification and pooling contracts seem to be widespread rather than absent. Despite the evidence of adverse selection found in competitive insurance markets such as the Canadian market for automobile insurance and the US individual health insurance market, these markets are characterized by subsidization of high-risk individuals' insurance purchases by low risk individuals (Dahlby 1983, Browne 1992, Marquis 1992).

To eliminate the problem of non-existence of equilibria and to allow for subsidizing contracts several nonmyopic equilibrium concepts are developed: anticipatory equilibrium (Wilson 1977), reactive equilibrium (Riley 1979), subsidized separating equilibrium (Miyazaki 1977, Spence 1978) and dissembling equilibrium (Grossman 1979). These equilibrium concepts require sophisticated seller or buyer behavior, based on expectations regarding the behavior of other sellers or buyers.

Wilson (1977) assumes that each insurer refrains from offering contracts that will be profitable in the short term but that will become unprofitable when other insurers withdraw any policy as soon as it also becomes unprofitable. When calculating the profits from offering a new set of policies, therefore, a firm must first take into account the effect of that offer on the profits of all existing policies. The resulting equilibrium either will consist of a set of Nash self-selection contracts or will entail a pooling contract. The pooling contract emerges in the case when Nash-type behavior would not sustain equilibrium (i.e. when the proportion of high risk individuals is below a certain critical level). Grossman (1979) obtains a similar result as Wilson by assuming that high-risk insurance buyers perfectly mimic low-risk buyers when they apply for insurance. Riley (1979) shows that insurers stick to RS allocations if they can predict that entry would render other offers unprofitable. Finally, Miyazaki (1977) and Spence (1978) have modified Wilson's behavioral assumption by permitting firms to offer a portfolio of contracts that overall breaks even,

1 Borch (1990) distinguishes three different classes of insurance: life, business and household insurance. The distinction is made because of important differences in theoretical analysis, type of competition and government attitude. Household insurance is sold in a mass market to ordinary consumers as protection against the risks in everyday life.

though individual contracts of the portfolio can make profits or losses. This adjustment enables a subsidized separating equilibrium, in which loss-making contracts for high risk individuals are cross-subsidized by profit-making contracts for low risk individuals.

Dahlby (1983) and Browne (1992) conclude that the use of imperfect statistical discrimination in the automobile and individual health insurance markets are consistent with the equilibrium concepts of Wilson and Miyazaki/Spence but not with the RS separating equilibrium model. Riley (1983) shows that the findings of Dahlby are also consistent with his own concept of reactive equilibrium. However, neither Dahlby nor Browne provide a direct test of insurer behavior. The fact that their findings are consistent with anticipatory insurer behavior does not imply that insurers actually behave that way. Their empirical observations provide evidence of the existence of pooling contracts rather than evidence of strategic insurance seller behavior.

In fact, the assumed anticipatory behavior by insurers (or insureds) is not plausible in the context of a competitive market with a large number of sellers and buyers of insurance policies. The usual assumption in such a market is myopic Nash-type behavior, implying that each insurer ignores potential competitors' responses to new policy offers. As argued by Rothschild and Stiglitz (1976, p. 647) 'nonmyopic equilibrium concepts are more appropriate for models of monopoly (or oligopoly) than for models of competition'. If a large number of insurers are competing with each other, it is unlikely that all (potential) competitors will be endowed with Wilson or Riley foresight. It is even more unlikely that competitive markets can sustain systematic cross-subsidization (as assumed by Miyazaki and Spence) because of the strong incentives to drop loss-making policies.

In this chapter the RS model is expanded to explain why and to what extent costly risk classification may occur in a simplified competitive insurance market with asymmetric information. Insurers can cope with adverse selection by varying the level of coverage as a sorting device or by screening applicants at a certain cost to obtain information about characteristics that are correlated with their loss propensities. The degree of risk classification is introduced as a investment decision to the insurer.

It will be demonstrated that a combination of a pooling and a separating equilibrium can be sustained if myopic insurers are subject to a binding agreement not to charge individuals within each observed risk category less than the actuarially fair premium. Such an agreement has the same effect as anticipatory Wilson behavior but is likely to be less restrictive because it does not require perfect foresight among a large number of insurers (instead it requires an effective monitoring of the pricing of insurance policies by the government or a coordinating trade association). Examples of such agreements

are the 'Market code non-life insurance', which for more than a decade was supported by a vast majority of the Dutch non-life insurance companies, and the block exemption from the EU competition rules for agreements on the calculation of common risk premiums tariffs, which was granted by the European Commission to the insurance industry in 1992. It is shown that such restrictions on competition can effectuate a welfare gain to society. In addition, it is shown that when risk classification is not prohibitively expensive, equilibrium is more likely to exist than in the RS model.

The chapter is organized as follows. Firstly, the model is contrasted with previous models of imperfect risk classification. Then the basic assumptions are described of a competitive insurance market model with asymmetric information in which the accuracy of risk classification is a choice variable to the insurers. In a subsequent section the set of equilibrium contracts is described. Next, the optimal investment in risk classification is determined. In addition, conceivable classification cost functions and utility functions are specified to provide additional insight into the potential impact of costly risk classification on equilibrium. Finally, the relevance of the model is illustrated using the case of the Dutch private health insurance market.

3.2 Previous models of imperfect risk classification

The welfare implications of imperfectly classifying risks in insurance markets with asymmetric information are investigated by Hoy (1982) and Crocker and Snow (1986).[2] Assuming that insurers have Wilson foresight, Hoy (1982) demonstrates that costless imperfect risk classification can lead to an unambiguous Pareto improvement in welfare only if initially there is a Nash self-selection equilibrium. If the initial equilibrium is a pooling one, then the welfare effects of risk classification are ambiguous since there are winners as well as losers. Hoy even depicts a case in which costless risk classification may reduce efficiency.

If, instead of Wilson foresight, insurers display pure Nash-type behavior or Riley-type reactive behavior they would not use costless imperfect risk classification at all. However, Crocker and Snow (1986) demonstrate that governments can impose a balanced-budget tax policy to ensure that, irrespective of the equilibrium concept used, costless imperfect risk classifica-

2 The discussion is confined to models with exogenous risk classification. See Bond and Crocker (1990) for an analysis of the efficiency and market equilibrium effects of endogenous risk classification, where insurance companies classify risk on the basis of observable risk-related consumption patterns of insureds. They demonstrate that endogenous categorization can mitigate adverse selection.

tion always enhances efficiency. Hence, the benefits from costless risk classification are not (fully) realized by the market, which can be explained by the fact that equilibria in markets with asymmetric information may not be efficient (Crocker and Snow 1985).

In addition, Crocker and Snow (1986) also examine the efficiency effects in case the costs of risk classification are not negligible. They assume that insurers can obtain a certain amount of information about characteristics that are correlated with individuals' risk at a fixed per capita cost x, which have to be paid by all consumers. In the context of a Miyazaki-Spence subsidizing equilibrium they show that the cost of categorization may be small enough to induce insurers to classify, while being too large to be able to compensate the losers by the winners of risk classification. Hence, they conclude that for intermediate levels of classification cost the market constitutes an inefficient mechanism for allocating resources. However, in case the losers from risk classification cannot be compensated by the gainers, Crocker and Snow do not explain why they would voluntarily contribute to the cost of risk classification. Although Crocker and Snow assert that those classified as high risks are 'forced to pay the resource cost x of categorization' (p. 337) they do not make clear by whom or by what mechanism they are forced to do so. In a competitive insurance market without government intervention market forces are insufficient to guarantee that each consumer will pay for risk classification. For, in case the pre-categorization equilibrium is of a no-subsidy separating type, non-categorizing insurers can attract individuals of the high risk category by offering contracts without the mark-up for categorization.

This chapter does not focus on the efficiency effects of risk classification but on explaining the presence and the extent of costly risk classification in competitive insurance markets with asymmetric information. Instead of the nonmyopic equilibrium concepts of Wilson, Miyazaki and Spence the concept of myopic behavior is employed, except that insurers are bound to an agreement to charge each observed risk category at least an actuarially fair premium. In contrast to Hoy (1982) and Crocker and Snow (1986) acquiring information about the risk characteristics of applicants is an investment decision to the insurer. Moreover, in contrast to Crocker and Snow consumers are not forced to pay for costly risk classification but their willingness to pay depends on its potential benefits.

3.3 Assumptions

Point of departure is the RS model of a competitive insurance market. The market consists of low-risk and high-risk individuals with the same initial

wealth W and with exogenous specified probabilities respectively π_L and π_H to incur a certain loss X. The proportions of low and high risks in the population are denoted by N_L and N_H ($N_L + N_H = 1$). Individuals can protect themselves by purchasing an insurance policy at a premium cP, which vouches for a compensation cX if the loss occurs ($0 \leq c \leq 1$, where c denotes the rate of coverage, varying between no coverage, $c = 0$, and full coverage, $c = 1$). Consumers are risk-averse and make insurance purchase decisions according to the expected utility theorem, each of them having the same Von Neumann-Morgenstern utility function. There is no problem of moral hazard because insureds cannot affect either loss probability or loss amount. Consumers are permitted to buy only one insurance policy, or, alternatively, insurers are able to monitor the aggregate amount of coverage bought by each policyholder.[3]

The insurance market is competitive, involving free entry and exit and a large number of sellers and buyers of insurance policies. Insurance companies are risk neutral and their objective is to maximize expected profits. As in the RS model, each insurer issues but a single contract, so insurers cannot balance losses on one policy with profits on another. Administrative expenses of providing insurance are ignored. Without risk classification insurers are unable to identify the risk of individual applicants prior to issuing coverage. On the other hand consumers can make an unbiased estimate of the average loss probability of the risk group they are in.[4]

Insurers can obtain information about characteristics that are correlated with risk classes. Some characteristics are observable at negligible costs (e.g. age, sex and other demographic variables), while others require costly screening tests (e.g. for diagnosis of hypertension, obesity, alcoholism, diabetes, HIV status).[5] Commonly available risk information which is observable at no costs reduces the informational asymmetry for all insurers to the same extent. To reduce the

3 Cummins et al. (1983, pp. 54-58) show that if insurers are unable to enforce coverage limitations neither the Nash nor the Wilson separating equilibria can be sustained. Instead, either low-risk individuals are driven from the market or a pooling equilibrium exists which makes low risks worse off than if insurers can restrict coverage. However, most consumers of individual household insurance actually purchase only one policy or buy supplemental coverage from the same insurer, so the RS assumption may be appropriate.

4 As pointed out by Rothschild and Stiglitz (1976) this assumption is equivalent to the far more restrictive one that all individuals know their own loss probability. Kleindorfer and Kunreuther (1983) analyze the effects on market equilibrium of systematic consumer misestimation of loss probabilities. They show that overestimates (underestimates) by the high risks and underestimates (overestimates) by the low risks enlarges (reduces) the likelihood that a Nash equilibrium exists.

5 The US Office of Technology Assessment (OTA, 1988) defines a screening test as 'a test to sort out apparently well persons who probably have disease (or who have an increased likelihood to develop a disease) from those who probably do not have disease (or probably will not develop disease)'.

residual informational asymmetry, insurers have a choice between two alternative strategic options. Firstly, they can rely on signalling by varying the level of coverage. Alternatively, they can choose to classify risks by screening applicants on characteristics that are correlated with their loss propensities. Insurers who decide to invest in screening techniques are designated as classifying insurers, those who rely only on signalling as non-classifying insurers.

Relevant screening tests are available to all insurers at the same costs. Moreover, each insurer knows how accurate the various screening tests are at predicting the risk of an applicant.[6] The available screening tests enable insurers to classify applicants either in a low-risk or in a high-risk category. The proportions of the population classified by insurers in the low-risk and high-risk category are denoted by n_L and n_H ($n_L + n_H = 1$). For the sake of simplicity it is assumed that the relevant classification techniques are unbiased in the sense that the proportion of the population classified as low (high) risks equals the proportion of the population actually being of the low (high) risk type ($n_L = N_L$ and $n_H = N_H$).[7] It is assumed that insurers cannot estimate the risk of applicants more precisely than the applicants themselves, so in the limiting case risk class information is held symmetrically by insureds and insurers. This limiting case will be designated as perfect risk classification. Unless risk classification is perfect, the observed low-risk and high-risk categories are heterogeneous, consisting of different proportions of low and high risk individuals. The fractions of low-risk and high-risk individuals in the observably low-risk category are denoted by n_{LL} and n_{LH} and the fractions of high-risk and low-risk individuals in the observably high-risk category are denoted by n_{HL} and n_{HH} (where $n_{LL} + n_{LH} = n_{HL} + n_{HH} = 1$). Risk classification is only informative if the proportion of high risks classified in the low-risk category is smaller than the proportion of high risks in the total population ($n_{LH} < N_H = n_H$). The cost of risk classification is assumed to be an increasing convex function of its accuracy μ, which can be measured by $(n_H - n_{LH})/n_H$, varying between 1 when $n_{LH} = 0$ (perfect classification) and 0 when $n_{LH} = n_H$ (no classification).[8] Thus,

6 Notice that because screening tests are available at the same costs to all insurers, insurers cannot obtain exclusive information about the risk of applicants by applying screening techniques. Thus classifying insurers cannot expect to earn positive profits because applicants will select other classifying insurers offering more favorable contracts. By contrast, Kunreuther and Pauly (1985) consider a situation where insurers can guarantee themselves positive profits by collecting exclusive information on the claims experience of their customers.

7 It is likely that insurers have knowledge of at least a crude distribution of risk groups in the population. Therefore it seems reasonable to suppose that they will ignore classification techniques that result in a substantially different allotment of risk types.

8 Notice that $\mu = (n_H - n_{LH})/n_H = (n_L - n_{HL})/n_L$ because the assumption that $N_H = n_H$ implies that $n_{HL} = n_{LH}(n_L/n_H)$. Hence, μ can serve as an unambiguous measure of the accuracy of risk classification.

for $\mu = 0$ we are back to the RS model and for $\mu = 1$ full insurance is provided at actuarial premia plus a mark-up for the cost of risk classification.

The use of imperfect risk classification is inconsistent with pure Nash behavior. Therefore, a binding restraint on insurers' conduct is assumed which allows for its use. Specifically, it is assumed that classifying insurers are bound by an agreement not to charge each individual within an observed risk category less than the actuarially fair premium.[9] Thus, classifying insurers charge each member of a risk category a premium, which is at least the expected loss assumed to apply to each member of the category. As long as all insurers are subject to the same rules, such an agreement does not preclude competition but merely restricts the scope of contract offers.

The rationale for such a binding agreement is that it prevents some insurers from offering contracts that would undermine others' investments in risk classification. Collectively, insurers are more likely to have Wilson foresight than each insurer individually. Just because insurers cannot trust that each of them is endowed with Wilson foresight, they will have an incentive to conclude an agreement which precludes that contracts are being offered at less than the actuarially fair rates for each observed risk group. Such an agreement could be enforced by the government, by some other (statutory) superintendent body or by a coordinating trade association. The willingness of insurers to subscribe to such agreements seems to reflect actual experience in individual household insurance markets, where insurers regularly stress their commitment to maintain an 'actuarially sound' premium structure. For instance, in the very competitive Dutch non-life insurance market, characterized by a large number of competitors and unregulated premiums, insurers for more than a decade endorsed a 'Market code non-life insurance' containing an agreement to charge a 'technically adequate risk premium' for each insurance policy, which implied that premiums were to be based on observable risk factors (Van Rijn 1984). Under Regulation 3932/92 of December 21, 1992, the European Commission granted agreements by insurance companies on the calculation of common risk premiums tariffs[10] a block exemption from the antitrust rules of the European Union (Article 85-1 of the EEC Treaty).

3.4 Equilibrium contracts

There are two possible types of sellers of insurance policies pursuing different strategies to cope with adverse selection: classifying and non-classifying

9 Notice that such an agreement is not binding on non-classfying insurers, since they cannot observe different risk categories.

insurers. Non-classifying insurers rely on signalling by offering varying levels of coverage and classifying insurers rely on risk classification by offering contracts to applicants contingent on the outcome of screening. Subsequently, buyers select an optimal contract from the menu of contracts that are offered to them.

Equilibrium can be defined as a set of insurance contracts such that – when sellers display Nash-type behavior but have committed themselves to charge each individual within an observed risk category at least an actuarially fair premium and when buyers choose contracts to maximize expected utility – each contract earns nonnegative expected profits and there is no contract outside the equilibrium set that, if offered, would earn nonnegative expected profits when included with those in the original set.[11]

Using Figure 3.1, it will be demonstrated that such an equilibrium exists if the proportion of high risk individuals in the observably high-risk category is sufficiently large. The equilibrium set of contracts consists of a pooling contract for those who are classified in the low-risk category and a pair of separating contracts for those who are classified in the high-risk category.

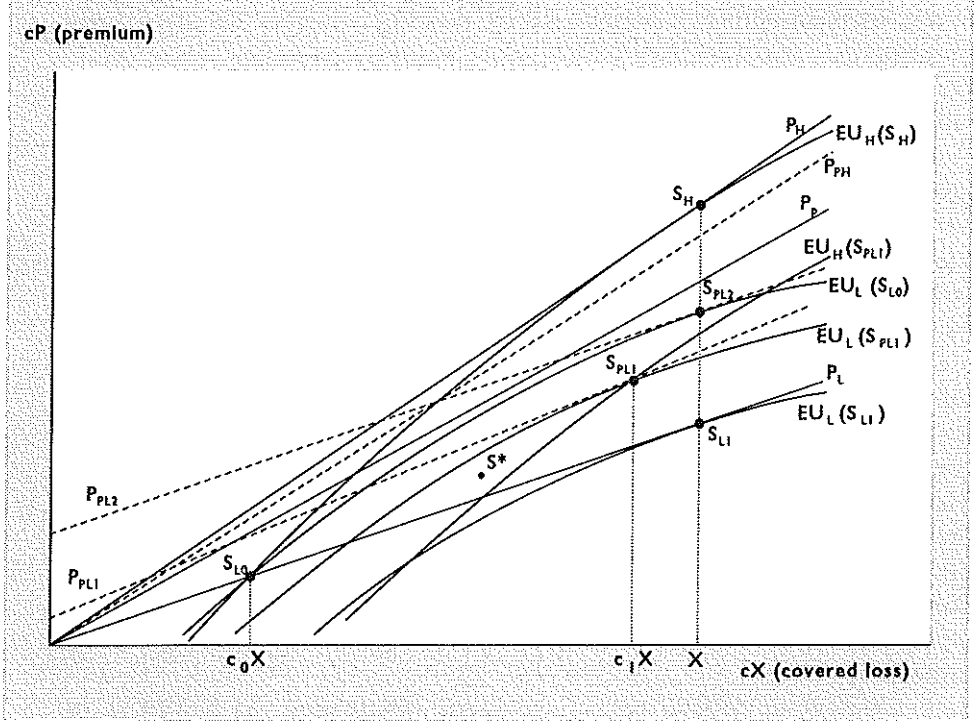
The indifference curves EU represent all contracts S, consisting of coverage and premium pairs $\{cX, cP\}$, to which low-risk or high-risk consumers (denoted by the subscripts L and H) attach the same expected utility. In equilibrium each policy makes zero expected profits. Sets of policies that break even are represented by the fair premium lines P_H and P_L, having slopes π_H and π_L respectively.

In a situation of costless perfect symmetric information the market is in equilibrium at the tangency of consumer indifference curves and the fair premium lines for both high-risk (policy S_H) and low-risk (policy S_{LI}) consumers. That is to say that both high-risk and low-risk consumers purchase the full coverage amount X at actuarially fair premiums. When insurers do not have information about the risk group their subscribers belong to, the only possible equilibrium is the separating pair of contracts (S_H, S_{L0}). High-risk consumers can still purchase full coverage, but low-risk consumers are forced to buy only partial coverage (c_0X), which is just low enough to remove the incentive for high-risk consumers to buy the same policy. The difference

10 Risk premium tariffs are defined as net premiums, exclusive of mark-ups for administrative costs, marketing expenses, other costs, and profit.

11 The model can be specified in a game-theoretic manner as a two-stage game. At stage one, non-classifying insurers offer contracts to all individuals and classifying insurers offer contracts to individuals contingent on the outcome of screening. At stage two applicants choose among the available contract offers. The usual Nash-condition is applied to the overall game and to both stages of the game. Hellwig (1987) shows that if insurers in a RS-market could withdraw contracts at a third stage, a pooling equilibrium is most plausible.

Figure 3.1 Equilibrium contracts with costly risk classification



between $EU_L(S_{L1})$ and $EU_L(S_{L0})$ is the negative externality the low risks experience due to the presence of high risks. This self-selection equilibrium is only viable if there is no pooling contract making nonnegative profits that yields more utility to the low-risk consumers than the separating contract. Thus for the existence of self-selection equilibrium the fair (average) premium line P_P for the pooled contract must lie above $EU_L(S_{L0})$ (as in Figure 3.1).

Suppose insurers can obtain information about the risk of their applicants at C per capita costs. Classifying insurers cannot charge applicants who they classify in the high-risk category a mark-up for the cost of risk classification, because then the low-risk individuals within this category can always obtain a favorable contract from a non-classifying insurer. However, individuals who are classified in the low-risk category may be prepared to buy a contract including a charge to compensate for the costs of risk classification, if that contract is more attractive than the contracts which are offered by non-classifying insurers. Hence, in a competitive market the favorably classified individuals' willingness

to pay for pooling policies may induce some insurers to invest in risk classification.[12]

If classifying insurers can offer a pooling contract for members of the low-risk category that is preferable to the contract offers of non-classifying insurers, all individuals will apply for such a contract because each individual can hope to be classified in the low-risk category. Therefore, classifying insurers have to offer a contract at a price including a mark-up that is sufficient to cover the cost of screening all applicants. Individuals who are classified in the low-risk category not only have to pay for their own screening costs but also for the costs of screening unfavorably classified individuals. Assuming that applicants are evenly distributed among classifying insurers, each applicant who is classified in the low-risk category has to pay a mark-up C/n_L to cover the insurer's costs of risk classification.

Individuals who are classified in the low-risk category are only willing to pay an extra charge for risk classification if it improves their expected utility. This requires that the fair premium line P_{PL} for the pooled 'classification' contract transects $EU_L(S_{L0})$ as well as $EU_H(S_H)$, as is the case for P_{PL1} in Figure 3.1 (the intercept of the line P_{PL} at the vertical axis represents the costs of obtaining information). If the pooled premium line P_{PL} transects $EU_L(S_{L0})$ it also must transect $EU_H(S_H)$ for any relevant contract offer ($c > c_0$), implying that the binding constraint for the occurrence of risk classification is the low-risk individuals' propensity to pay for risk classification. For, when low-risk and high-risk individuals are equally risk-averse, the latter group will always be prepared to pay more for risk classification than the first group, if they are classified in the low-risk category.

The contract S_{PL1} maximizes the expected utility of the low risks in the observably low-risk category at a given effort of the insurers to classify risks. Clearly, both low-risk and high-risk individuals in the low-risk category are better off than without risk classification because $EU_L(S_{PL1}) > EU_L(S_{L0})$ and $EU_H(S_{PL1}) > EU_H(S_H)$. Individuals classified as high risks will not be worse off since they can still purchase the separating pair of contracts (S_H, S_{L0}) which is offered by non-classifying insurers. Hence, at the given costs of risk classification, the investment in obtaining classification information effectuates a Pareto-type welfare improvement.

The optimal contract for individuals classified as low risk depends on the nature of the classification cost function. Given that cost of risk classification

12 Browne (1992) finds evidence of the fact that low-risk individuals contribute more to insurer surplus and expenses than high-risk individuals (corrected for the effect of commonly observable risk factors). As Browne argues, this finding supports the hypothesis that low risks subsidize the insurance consumption of high risks (and thus the existence of pooling or subsidizing contracts). Besides, his finding is also consistent with the supposition that low risks account for costly risk classification by insurers.

is an increasing convex function of its accuracy μ, the fair premium line for the observably low-risk category P_{PL} has a slope which decreases with μ (since accuracy of the classification improves) but with an intercept which increases with μ (because the cost of classification increases). In the situation depicted in Figure 3.1 the costs of perfect classification are just as high as to leave low-risk individuals indifferent between the self-selection contract S_{L0} and the 'perfect classification' contract S_{PL2} (where P_{PL2} parallels P_L). Here imperfect classification (S_{PL1}) will be preferred to both perfect (S_{PL2}) and no risk classification (S_{L0}).

At the optimal level of risk classification low-risk individuals in the low-risk class maximize their expected utility by minimizing the sum of the inversely related disutilities of paying an extra charge for risk classification and of subsidizing high risks classified in the low-risk category due to less than perfect risk classification. Let S_{PL1} be the optimal classification contract for the observably low-risk category. As explained below, S_{PL1} is the equilibrium contract for the observably low-risk category if the equilibrium for the observably high-risk category is the self-selection pair of contracts (S_H, S_{L0}). The only potential equilibrium breaking contracts are contracts such as S^*, which, if offered, would attract only low-risk individuals and thus making S_{PL1} unprofitable. However, classifying insurers will not offer such contracts because they are bound to the agreement not to offer policies at rates below the pooled loss probability of the individuals in the observed low-risk category.[13]

If the proportion of high-risk individuals in the high risk category (n_{HH}) is sufficiently large, incorrectly classified low-risk individuals will prefer the separating contract S_{L0} to a contract at a pooled premium. Hence, classifying insurers will not offer such a pooling contract to individuals in the observably high risk category, because it will attract only high-risk individuals and consequently earns negative expected profits. In that case the set of policies (S_H, S_{L0}), offered by non-classifying insurers, represents the only possible equilibrium for individuals in the observably high-risk category. For, non-classifying insurers will not offer a potential equilibrium breaking policy, such as S^*, because these contracts certainly will attract high-risk individuals currently buying S_H and thus will make negative expected profits. Notice that non-classifying insurers lack the relevant information to discriminate between low-risk and high-risk individuals, and thus cannot prevent high risks from buying S^*. Thus if the proportion of high-risk individuals in the high risk category (n_{HH}) is sufficiently large, neither classifying nor non-classifying insurers can offer a contract

13 Notice that when insurers have Wilson foresight the same equilibrium contract emerges. For, under the assumption of anticipatory Wilson behavior, insurers can predict that offering S^* leads their competitors to withdraw S_{PL1}. Hence, they will conclude that S^* also will become unprofitable and have to be withdrawn.

earning nonnegative expected profits outside the equilibrium set of contracts (S_H, S_{L0}, S_{PLI}).

On the other hand, if n_{HH} is below the critical level, an equilibrium does not exist. In this case all individuals in the high-risk category prefer a pooling contract at a fair pooled premium to a separating contract. However, such a pooling contract cannot be an equilibrium because contracts exist which, if offered, initially will attract only low-risk individuals and earn positive expected profits. Myopic insurers certainly will offer such contracts, which will not only render the pooling contract for individuals in the high-risk category unprofitable, but may also upset the pooling equilibrium for individuals in the low-risk category. It should be realized that if a separating equilibrium exists in absence of risk classification it also exists in the presence of risk classification, because the fraction of high-risk individuals in the observably high-risk category is higher than in the total population. By contrast, if an equilibrium does not exist in absence of risk classification, it may exist in its presence. For an equilibrium can be sustained if the proportion of correctly classified high-risk individuals is large enough, so that the fair premium line for the observably high-risk category (P_{PH}) lies sufficiently close to the fair premium line for the high-risk individuals (P_H). If even in the presence of risk classification a separating equilibrium for the observably high-risk category cannot be sustained, no classification contract for the observably low-risk category is viable too, because then non-classifying competitors will offer equilibrium-breaking contracts. In that case the insurance market cannot be in equilibrium.

3.5 Optimal investment in risk classification

The optimal investment in risk classification can be determined by maximizing the expected utility that correctly classified low-risk individuals attach to the pooled 'classification' contract $S_{PL} = \{c_I X, c_I P_{PL}\}$, which is

$$EU_L(S_{PL}) = \pi_L U(W - X + c_I X - c_I P_{PL}) + (1 - \pi_L) U(W - c_I P_{PL}) \tag{1}$$

The premium $c_I P_{PL}$ of the contract S_{PL} consists of two parts: the expected claim payment $c_I P_{PLE}$ and a charge C/n_L to cover the costs of risk classification

$$c_I P_{PL} = c_I P_{PLE} + C/n_L \tag{1.1}$$

The expected claim payment varies with the accuracy of risk classification. The more precise insurers categorize risks, the higher the coverage c and the lower the fair premium for full coverage P_{PLE}. P_{PLE} is determined by the fractions of low-risk and high-risk individuals in the low-risk category, and can be written as

$$P_{PLE} = ((1 - n_{LH})\pi_L + n_{LH}\pi_H)X \tag{1.2}$$

The per capita classification cost C is an increasing function of the accuracy of risk classification. Since the accuracy of risk classification is inversely related to n_{LH} the classification cost function can be expressed as

$$C = f(n_{LH}) \qquad \text{for } 0 \leq n_{LH} \leq n_H \tag{1.3}$$

given that $f(n_H) = 0$ and $f' < 0$. Because applicants who are classified as high risks are not prepared to pay for risk classification, individuals who are classified in the low-risk category have to compensate these costs and thus have to pay a per capita charge of C/n_L (or $C/(1\text{-}n_H)$) to cover the costs of risk classification. Hence, substituting (1.2) and (1.3) into (1.1) their premium amounts to

$$c_1 P_{PL} = ((1 - n_{LH})\pi_L + n_{LH}\pi_H)c_1 X + \frac{1}{1 - n_H} f(n_{LH}) \tag{1.4}$$

Correctly classified low-risk individuals will prefer a classification contract S_{PL} to a self-selection contract $S_{L0} = \{c_0 X, \pi_L X\}$ if it yields a higher expected utility. In other words, risk classification will be applied only if the following constraint is satisfied

$$EU_L(S_{PL}) \geq EU_L(S_{L0}) \tag{2}$$

where $EU_L(S_{L0})$ denotes the expected utility of the self-selection contract S_{L0} for low-risk individuals, which can be written as

$$EU_L(S_{L0}) = \pi_L\, U(W - X + c_0 X - c_0 P_L) + (1 - \pi_L)\, U(W - c_0 P_L) \tag{3}$$

and where the actuarially fair premium P_L for the self-selection contract S_{L0} is equal to $\pi_L X$.

The maximum rate of coverage c_0 low-risk individuals can purchase at a rate π_L per unit of coverage without attracting high-risk individuals can be calculated by solving

$$EU_H(S_{L0}) = EU_H(S_H) \tag{4}$$

where $EU_H(S_{L0})$ and $EU_H(S_H)$ can be written as

$$EU_H(S_{L0}) = \pi_H\, U(W - X + c_0 X - c_0 P_L) + (1 - \pi_H)\, U(W - c_0 P_L) \tag{4.1}$$

$$EU_H(S_H) = U(W - P_H) \tag{4.2}$$

and where the actuarially fair premium P_H for the self-selection contract S_H is equal to $\pi_H X$. Notice that c_0 may be zero if the difference between π_L and π_H is sufficiently large.

As argued in the previous section, a viable classification contract for the observably low-risk category requires a separating equilibrium pair of contracts (S_H, S_{L0}) for the observably high-risk category. This implies that low-risk individuals classified as high risk should attach at least equal value to a separating contract as to the pooling contract for those classified in the high-risk category $S_{PH} = \{c_2 X, c_2 P_{PH}\}$.

Thus, for the existence of a market equilibrium the following constraint must be satisfied

$$EU_L(S_{L0}) \geq EU_L(S_{PH}) \tag{5}$$

where the expected utility of contract S_{PH} for low-risk individuals is given by

$$EU_L(S_{PH}) = \pi_L\, U(W - X + c_2X - c_2P_{PH}) + (1 - \pi_L)\, U(W - c_2P_{PH}) \tag{6}$$

The fair premium for the observably high-risk category (P_{PH}) is determined by the fractions of high-risk and low-risk individuals so that $P_{PH} = (n_{HL}\pi_L + n_{LH}\pi_H)X$, which can be rewritten in terms of n_{LH} as

$$P_{PH} = \left(n_{LH}\,\frac{1 - n_H}{n_H}\,\pi_L + \left(1 - n_{LH}\,\frac{1 - n_H}{n_H}\right)\pi_H\right)X \tag{6.1}$$

Under constraints (2) and (5) the optimal degree of risk classification can be determined by maximizing the expected utility of the low risks in the low-risk category. Hence, viable classification equilibria can be found by solving the following maximization problem:

$$\text{Maximize: } EU_L(S_{PL}) \tag{7}$$

Subject to

$$EU_L(S_{PL}) \geq EU_L(S_{L0}) \qquad \text{(classification constraint)} \tag{7.1}$$

$$EU_L(S_{L0}) \geq EU_L(S_{PH}) \qquad \text{(existence constraint)} \tag{7.2}$$

$$n_H \geq n_{LH} \qquad \text{for } 0 < n_H < 1 \tag{7.3}$$

$$n_{LH} \geq 0 \tag{7.4}$$

Substituting (1), (3) and (6) into (7), (7.1) and (7.2), the maximization problem can be written in terms of the choice variables n_{LH}, c_1 and c_2 and the exogenous variables W, X, π_H, π_L, n_H and c_0 (where c_0 is the solution to equation 4). The third constraint ensures that risk classification is informative in the sense that the proportion of high risks classified in the low-risk category (n_{LH}) is smaller than the proportion of high risks in the population (N_H, which is assumed to be equal to n_H).

Let F denote the Lagrangian and $\tau_i \geq 0$ the multipliers associated with the four constraints (7.i). By applying the Kuhn-Tucker (K-T) conditions for a maximum the solution to the problem can be analyzed to determine the values of the choice variables n_{LH}, c_1 and c_2 that satisfy these conditions, which will be denoted by n_{LH}^*, c_1^* and c_2^* respectively.

If the third constraint is binding ($\tau_3 > 0$, which implies $\tau_4 = 0$) no classification contract is viable. Then the first two constraints are binding too because from $n_{LH}^* = n_H$ it follows that $EU_L(S_{PL}) = EU_L(S_{L0}) = EU_L(S_{PH})$ and $c_1^* = c_2^*$. Here the problem is the same as in the RS case and the solution n_H^{RS} is the critical proportion of high risks in the population that is just high enough to ensure the stability of the competitive equilibrium without risk classification.

If $\tau_4 > 0$ (which implies $\tau_3 = 0$) the competitive equilibrium involves perfect risk classification. Because low-risk and high-risk individuals are assumed to be equally risk-averse the second constraint is non-binding ($\tau_2 = 0$) (only if low risks would be more risk-averse than the high risks this constraint might be binding). With perfect classification the low-risk types purchase full insurance coverage ($c_1^* = 1$, as directly follows from the K-T condition $\delta F/\delta c_1 = 0$). Furthermore, in order to satisfy the K-T conditions for a perfect classification equilibrium the classification cost function must meet the following two requirements:

$$f'(0) > (1 - n_H)(\pi_L - \pi_H)X \tag{8.1}$$

and

$$U\left(W - \pi_L X - \frac{1}{1 - n_H} f(0)\right) \geq EU_L(S_{L0}) \tag{8.2}$$

Notice that if $f(n_{LH})$ is linear, both conditions are met if the full classification costs $f(0)$ are less than $(1 - n_H)(\pi_H - \pi_L)X$. So, insurers are more likely to classify risks exactly the lower the fraction of high risks, the higher difference in loss probabilities and the higher the amount of loss.

If $\tau_3 = \tau_4 = 0$ equilibrium contracts will entail imperfect risk classification. In case one of the first two constraints is binding the K-T conditions dictate that in the optimum the classification cost function has the following slope

$$f'(n_{LH}^*) = (1 - n_H)(\pi_L - \pi_H)c_I^* X \qquad (9)$$

Again, if $f(n_{LH})$ is linear, it follows that the full classification costs $f(0)$ are equal to $(1 - n_H)(\pi_H - \pi_L)c_I^* X$, which is lower than the maximum admissible level for perfect classification (since $c_I^* < 1$). Therefore, if the classification cost function is linear, insurers either will perfectly classify risk or will totally refrain from risk classification.

Although there are no available empirical data to determine the precise form of classification cost functions, linearity does not seem to be an acceptable assumption. Rather, it seems reasonable to assume an accelerating growth of classification costs as the accuracy of risk classification improves (or, equivalently, that investments in risk classification have diminishing returns). In the next section, conceivable classification cost functions and utility functions are specified to provide additional insight into the effects of risk classification on the nature and viability of the competitive equilibrium.

3.5.1 Particular functional forms

To examine solutions to the maximization problem the following particular functional forms of the utility and cost functions will be analyzed. In line with other theoretical and empirical studies (e.g. Feldstein and Friedman, 1977) a constant absolute risk aversion utility function of the form $U(W) = -\exp(-rW)$ is chosen (where $r > 0$ is the coefficient of absolute risk aversion and W represents wealth). This function implies that the degree of risk aversion does not depend on initial wealth.[14] The classification cost function is assumed to have a quadratic form to reflect the observation that risk classification becomes increasingly expensive when the chosen techniques are more sophisticated. Thus the functional form of the per capita classification cost C is specified as

$$C = f(n_{LH}) = \beta \left| \frac{n_H - n_{LH}}{n_H} \right|^2 \qquad \text{for } \beta \geq 0 \qquad (1.3a)$$

Given that $0 \leq n_{LH} \leq n_H$ it follows that $0 \leq f(n_{LH}) \leq \beta$. In other words, the per capita classification costs vary between 0 in absence of risk classification ($n_{LH} = n_H$) and β in case of perfect risk classification ($n_{LH} = 0$). Hence, β stands for the maximum or full per capita classification costs.

14 Two empirical studies found evidence that wealthier people are less risk averse (Friedman, 1974; Van de Ven and Van Praag, 1980) but a third did not find a statistically significant relationship (Marquis and Holmer, 1986). Nevertheless, the assumption that risk aversion does not vary with wealth could be made less restrictive, by allowing for different r's to be associated with different wealth positions.

Solutions to the preceding maximization problem (7) involve viable classification contracts $S_{PL} = \{c_1\ X,\ c_1\ P_{PL}\}$ for the observably low-risk category if

$$c_1^* = 1 - \frac{1}{rX} \ln \left| \frac{(1-\pi_L)\,(n_{LH}^*\pi_H + (1-n_{LH}^*)\,\pi_L)}{\pi_L(1-(n_{LH}^*\pi_H + (1-n_{LH}^*)\,\pi_L))} \right| \tag{10.1}$$

and

$$n_{LH}^* = n_H - \frac{n_H^2}{2\beta}\,(1-n_H)(\pi_H - \pi_L)\,c_1^*\,X \tag{10.2}$$

for $\quad n_{LH}^* \leq (1 - n_H^{RS})\,\dfrac{n_H}{1-n_H}$, $\quad$ if $\quad 0 < n_H < n_H^{RS}$,

or $\quad n_{LH}^* \leq n_{LH}^{*\max}$, $\quad$ if $\quad n_H^{RS} < n_H < 1$,

where n_H^{RS} is the critical proportion of high risks in the population above which market equilibrium always exists (the RS case), and $n_{LH}^{*\max}$ is the boundary solution to the first constraint. Recall that the maximum rate of coverage c_0 that low-risk individuals can purchase at a rate π_L per unit of coverage without attracting high-risk individuals can be determined by solving equation 4, or equivalently

$$1 - \pi_H + \pi_H \exp(rX(1-c_0)) = \exp(rX(\pi_H - c_0\pi_L)) \tag{4a}$$

Given the solution for c_0, the optimal degree of risk classification μ^* ($\mu^* = (n_H - n_{LH}^*)/n_H$) can be uniquely determined and consequently the equilibrium insurance contract.

Notice that in the case of more than two risk classes market equilibrium will not be unique because the contribution of each risk category to the insurer's investment in risk classification also becomes a decision variable. As a consequence, various combinations of relative contributions to, and degrees of risk classification may occur simultaneously.

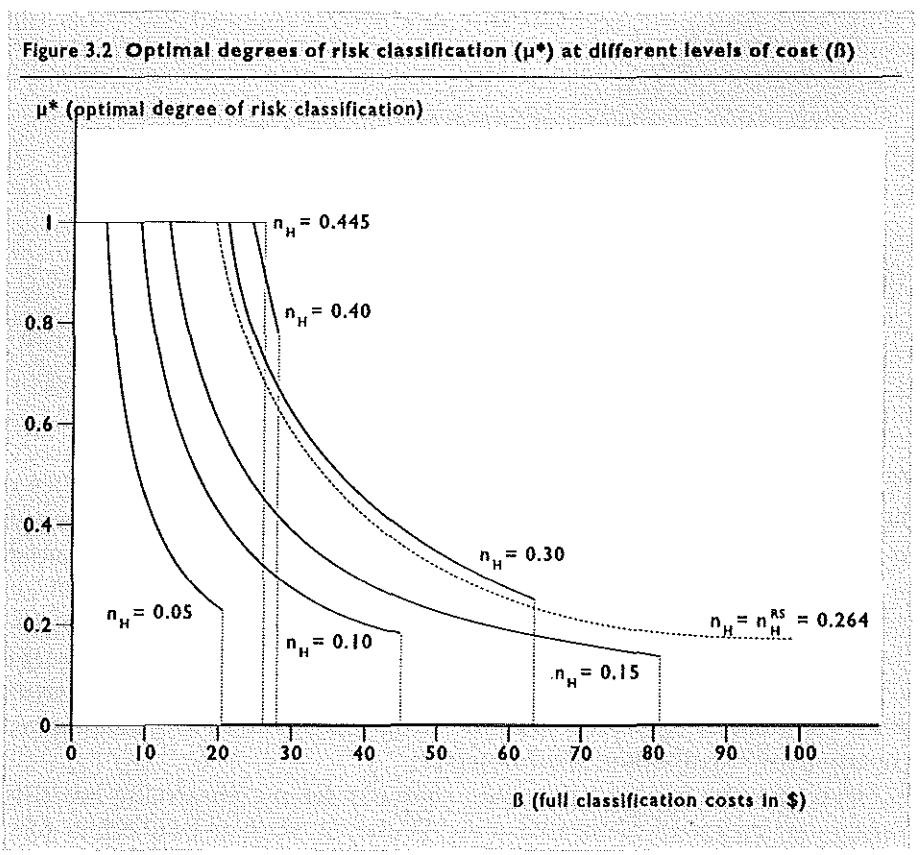
A numerical example

To provide more insight into the nature of the resulting equilibrium contracts the following plausible parameter values were used. The probabilities to incur a supposed loss X of \$ 1000 were taken to be $\pi_L = 0.2$ for the low risks and $\pi_H = 0.4$ for the high risks. The coefficient of absolute risk aversion is set at $r = 0.001$ in accordance with the findings of empirical studies on health

insurance plan choice, which comprise estimated coefficients between 0.00094 and 0.00113 in 1982 dollars (Marquis and Holmer, 1986).[15]

Given these parameter values the rate of coverage of the separating contract for low risks is 30 percent ($c_0 = 0.30$). Next, it can be calculated that a stable competitive equilibrium always exists if the population consists of at least 26.4 percent high-risk individuals ($n_H^{RS} = 0.264$). For $n_H \geq n_H^{RS}$ applicants who are classified as low risk will either buy a classification contract or the separating contract, depending on cost of risk classification (denoted by parameter β). On the other hand, if $n_H < n_H^{RS}$ the equilibrium is stable if classification costs are low enough to improve risk classification to such extent that the remaining number of wrongly classified low risks is sufficiently small to make the separating contract more attractive than a pooling contract.

Figure 3.2 Optimal degrees of risk classification (μ*) at different levels of cost (ß)



15 Referring to an example by Feldstein and Friedman (1977) a risk aversion coefficient of 0.001 implies that a person is only willing to participate in a fair bet in which there is an even chance of winning and losing $ 1000 if he gets a side payment of at least $ 434.

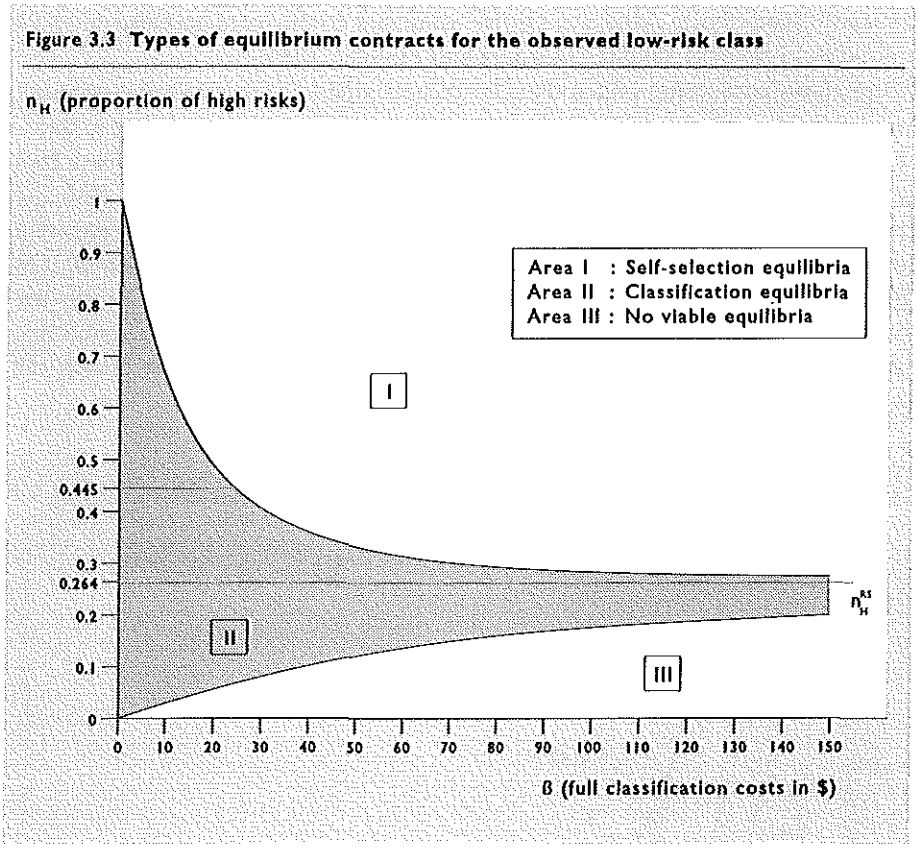
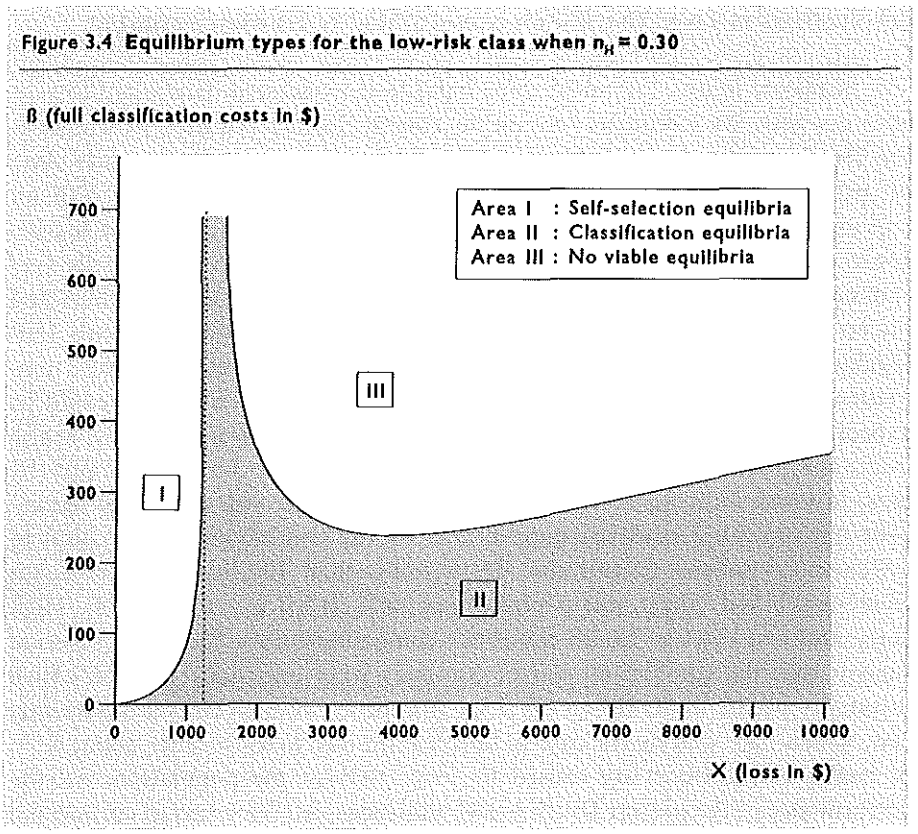


Figure 3.2 shows the optimal degree of risk classification μ^* $(0 \leq \mu^* \leq 1)$ for different values of n_H at varying cost levels β. Since those who are categorized as low-risks also have to pay for the risk classification of the individuals placed in the high-risk category, the feasibility of risk classification declines with an increase of n_H. For $n_H \geq 0.445$ there will be either perfect $(\mu^* = 1)$ or no risk classification $(\mu^* = 0)$. Perfect risk classification will occur if the charge $C/(1 - n_H)$ to cover the cost of risk classification does not exceed 18.2 percent of the premium. If $n_H < 0.445$ and risk classification is not too (in)expensive, imperfect risk classification will be optimal.

In Figure 3.3 the type of equilibrium contracts for the observably low-risk category are portrayed. Compared to the RS case, in which an equilibrium does not exist if $n_H < 0.264 = n_H^{RS}$, the likelihood that no equilibrium can be sustained is significantly reduced. The part of the shaded area II below the critical line where $n_H = n_H^{RS} = 0.264$ represents the gain in market stability due to risk classification as compared to the RS case. For example, if the full per capita



classification costs are less than 44.5 dollars, or less than 22.6 percent of the premium paid by low-risk class insureds for the equilibrium contract, equilibria already exist if $n_H \geq 0.10$. As can be seen in Figure 3.3, the closer n_H approaches n_H^{RS} the more likely the occurrence of risk classification.[16]

Finally, Figure 3.4 depicts the equilibrium types for the observably low-risk category at varying levels of the potential loss X given $n_H = 0.3$. For low levels of loss individuals will purchase either a classification contract or a self-selection contract. Non-existence of equilibria is a problem only if the loss exceeds an amount of $ 2000 and the full classification costs are at least $ 300. The maximum allowable classification costs increase with the amount of the insured loss although less than proportional.

16 As n_H approximates n_H^{RS} the optimal degree of risk classification becomes infinitesimal and classification costs become infinitely large. Of course, in reality risk classification occurs in a discrete rather than in a continuous manner.

3.6 An illustrative case: the Dutch private health insurance market

The displayed figures may shed some light on the observed dynamics of insurance markets. We will focus here on the role of risk classification over time in the Dutch market for individual private health insurance. In the early days of private health insurance analysis of different risks was so difficult and expensive that insurers applied the same rate to large groups of heterogeneous risks (De Wit 1986, Sloan 1992). Risk classification was generally very rudimentary, so the distribution of information about risk between sellers and buyers of insurance policies was highly asymmetric. Moreover, both self-regulation and government regulation of the health insurance market were non-existent, so insurers' market conduct was totally unconstrained. As could be expected, self-selection played a dominant role in the prewar private health insurance market, resulting in a virtual non-purchase of health insurance by most low-risk individuals. Pooling contracts for higher risk groups of incumbent insurers were rendered unprofitable by the continuous introduction of lower-priced policies by entrants. Of the more than 100 health insurers that were established during this period about 40% failed (see Chapter 4). High entry and exit rates of health insurance companies during the prewar period suggest that the equilibrium sets of contracts were essentially unstable. Such instability occurs in the RS-model if the proportion of high risks is sufficiently low, which may well be the case in health insurance markets since about 85% of health expenditures are caused by only 10% of the population. So, the performance of the prewar Dutch health insurance market seems to correspond quite well to the predictions of the classical RS-model.

After the second world war the extent of risk classification in insurance markets gradually increased. Owing to a considerable improvement in the observational techniques a much more thorough description and analysis of risks became possible. A recent investigation of the Office of Technology Assessment (OTA 1988) into the use of medical testing in the US health insurance industry pointed out that health insurers selling individual policies used a whole array of medical and non-medical underwriting factors. Conform to the expectations with regard to a competitive market, the OTA found that in general the companies take a very similar approach to classify risk. Besides, qualitative improvement in observational techniques was accompanied with a dramatic fall in the price of computerized information systems. Hence, the increase in accuracy of risk classification was accompanied with a decrease in costs.[17] Moreover, advance-

17 Notice, however, that risk classification is assumed to determine the composition but not the number of risk categories. In practice, more accurate risk classification may also lead to the identification of additional risk classes. Consequently, the rating structure gets more complicated, which will generate extra administrative costs. So, the administrative costs of differentiating the premium schedule may also put a restraint on the extent of risk classification.

ments in risk classification went together with a steady increase in the magnitude of the insured losses (in real terms), especially in the health insurance market. The same competitive pressures that previously induced insurers to charge crude standard premiums are now limiting the ability of insurers to accept heterogeneous risks in a single risk pool.

In the postwar period Dutch private health insurers were able to accomplish rather effective self-regulation. Various trade associations were established to coordinate market conduct such as developing uniform principles for premium calculation, sharing statistical information and instituting shared risk pools for high-risk individuals. In 1950, most non-life insurers endorsed an agreement about the underwriting of group contracts and in 1979 a 'Market code non-life insurance' was adopted by the majority of non-life insurance companies (accounting for more than 80% of total premium income). As mentioned earlier, the market code involved an agreement not to charge technically unwarranted premiums, implying that premiums were to be based on observable risk factors. Despite these self-imposed restraints on market conduct, the Dutch non-life insurance industry in general, and the market for health insurance in particular, remained highly competitive, given the low levels of seller concentration, minor barriers to entry and small profit margins (De Galan 1986).

Until the 1970s self-regulation enabled Dutch health insurers to charge community rated premiums to standard risks, while a shared risk pool was instituted to provide coverage for substandard (or high) risk groups. Since then, risk classification gradually became more important in rate making, particularly since 1980 when the risk factor age was introduced to differentiate premiums. The reducing costs and increasing accuracy of information gathering had raised the profit-maximizing degree of risk classification. Hence, the extent of premium differentiation based on risk classification is expected to increase. The combination of rising costs of medical care and a decline in the cost of risk classification can be visualized in Figure 3.4 by a shift towards the south-east corner, implying a reinforcement of market stability if risk classification is sustained by effective self-regulation.

However, the escalating cost of medical care put increasing pressure on the government to force insurers to restrict rate discrimination in order to keep health insurance affordable for everyone. If risk classification is prohibitively expensive, rate regulation can obstruct a sufficient degree of policy differentiation to cope with the adverse selection problem, so market equilibria may not be sustainable. On the other hand, if the costs of risk classification are relatively low, insurers will be tempted to select favorable risks relative to the premium (cream skimming). The cheaper risk classification becomes, the more preferred risk selection will be a problem when premiums are regulated. So, in either case simple rate regulation is likely to fail.

The Dutch government first attempted to deal with the problem of preferred selection by combining restrictions on premium differentiation with a system of mandatory transfers from insurers with a relatively 'healthy portfolio' to insurers with a relatively 'unhealthy portfolio' (De Wit 1986). Although the proposed risk equalization scheme (ILPZ) was enacted in 1986, it never came into operation due to its technical complexity and resistance by adversely affected insurers. Subsequently, the Dutch government decided to reduce the problem of ongoing premium differentiation by bringing the elderly and other high-risk groups under a quasi social health insurance scheme (WTZ). Since the instigation of a major reform of the health care financing system in 1989, the government aims at establishing a health insurance system in which competition and universal access can be combined (see Chapter 2). Universal access has to be guaranteed by mandatory insurance for a standardized basic benefit package, open enrollment and income-related contributions or premiums. The income-related premiums should be channeled to a Central Fund, which allocates the money to the health insurers in accordance to the magnitude and composition (riskiness) of their portfolio. Preferred risk selection can be precluded if the payments to health insurers are adequately adjusted for the risk of their subscribers (Van de Ven and Van Vliet 1992). The prospective risk-adjusted payment to health insurers does not cover total expected costs, so health insurers will be allowed to charge each subscriber a flat rate premium. The flat rate premium is introduced to create room for price competition, which should motivate insurers to reduce costs.

In summary, in the transformation of the Dutch private health insurance market three stages can be distinguished. The first stage can be exemplified as a classical RS-type market, characterized by a predominance of unstable self-selection contracts. During the second stage self-regulation was sufficient to ensure market stability with highly imperfect risk classification. In the third stage, the increased cost of medical care and the decreased cost of risk classification forced competitive insurers to refine risk rating. Because refined risk rating would jeopardize universal access to health insurance, government intervened to curb premium differentiation. However, simple rate regulation was inconceivable because it would encourage cream skimming and would be likely to endanger market stability. So, at the present level of health care expenditure and the cost and accuracy of risk classification, it is only possible to reconcile a competitive health insurance market with universal access by means of a sophisticated system of risk-adjusted capitation payments (either to insurers or to the insured). However, the development and implementation of such a reimbursement system, which has been proposed in health care reform plans in the US (Newhouse 1994), Russia (Sheiman 1994), Germany (Schneider 1994) and the Netherlands, is still in its infancy.

3.7 Conclusion

In this chapter the RS-model of a simplified competitive insurance market is extended to explain why and to what extent costly risk classification may occur in competitive insurance markets with asymmetric information. As an alternative to offering separating contracts, insurers are supposed to be able to reduce informational asymmetries by acquiring costly information about characteristics that are correlated with the risk of the applicants. When entry is free and classification techniques are available at the same cost to all insurers competitive pressures may induce some insurers to classify risks. This is because individuals who are classified in the low-risk category will be interested in financing investments in risk classification if the costs are outweighed by the benefits in terms of expected utility. In contrast to previous models using anticipatory seller behavior to explain the presence of pooling contracts, the assumption of myopic seller behavior, which is usual in the context of competitive markets, is retained. Instead, it is assumed that either the insurers or the government have sufficient foresight to endorse an agreement which can sustain imperfect risk classification. It is shown that an agreement to charge individuals in each observable risk group at least an actuarially fair premium can sustain an equilibrium in the presence of imperfect risk classification if the proportion of correctly classified high-risk individuals is sufficiently high. Although such an agreement puts some restriction on market conduct, it leaves ample room for competition. In comparison to the RS model, the resulting equilibrium set of contracts is not only more likely to exist but also Pareto superior. In other words, costly risk classification may stabilize a competitive insurance market and may result in a Pareto-type welfare improvement. Interestingly, the type of agreement that may enable imperfect risk classification was recently granted a block exemption from EU antitrust rules. The potential stability and efficiency enhancing effects of such agreements provide a rationale for granting them antitrust immunity.

In the stylized insurance market model which is presented here, imperfect risk classification is only feasible if all insurers and entrants support the agreement about risk premium calculation. In an insurance market with a large number of competitors and low barriers to entry, it will be difficult to ensure that all sellers and entrants comply with such an agreement. It should be noticed, however, that in 'real world' insurance markets a minority of non-cooperative insurers need not upset market equilibrium for several reasons. Firstly, buyers of insurers policies generally do not seem to react instantaneously to each favorable policy offer. Rather, empirical evidence shows that in choosing among alternative policies individuals display a strong bias toward sticking with the status quo (Neipp and Zeckhauser 1985, Samuelson and Zeckhauser 1988,

Berger et al. 1989). Secondly, rate discrimination based on risk classification is only one tool insurers can employ to mitigate adverse selection. By using multi-period contracts and experience rating (D'Arcy and Doherty 1990), by the application of other tools of underwriting, such as exclusion waivers and denial of insurance, and by the application of other self-selection instruments, such as waiting periods and deductibles, insurers can also deal with potential adverse selection problems. Because strategies to counteract adverse selection result in less than full coverage for some risk groups they generate a welfare loss to society (although this welfare loss may to some extent be offset by the presence of moral hazard). The partial or even non-existing coverage for some risk groups make strategies to deal with adverse selection often socially controversial (Light 1992). Hence, the main problem for insurers in competitive insurance markets may not be the lack of tools to cope with adverse selection problems but to find a balance between opposite social and market forces in deciding whether or not to apply such tools. In health insurance markets the adverse consequences of dealing with adverse selection are such that government intervention is imperative.

4

The dynamics of adverse selection in the Dutch private health insurance market[1]

Summary

This chapter analyzes the changing nature of the adverse selection problem in the Dutch private health insurance market, using structure, conduct and performance data. The prewar health insurance market is characterized by asymmetric information and high entry and exit rates, suggesting the presence of a 'true' adverse selection problem. In the postwar period, adverse selection was initially effectively mitigated by cartelization and self-regulation. However, this rather unstable equilibrium was upset in the 1970s by the escalating cost of medical care. Empirical results provide evidence of the occurrence of premium spirals, as a result from adverse selection induced by self-regulation and government regulation. Early dominating health insurers were particularly exposed to premium spirals. The only way for insurers to escape a fatal premium spiral was to improve preferred risk selection and to refine risk rating. However, these efforts to reduce adverse selection were seriously jeopardizing universal financial access to medical care and consequently provoked a profound socialization of the private health insurance industry. The fundamental problem of a competitive health insurance market is not the lack of effective strategies for insurers to deal with adverse selection, but the unacceptable consequences of those strategies to society. A promising way to reconcile the seemingly antithetical principles of competition and universal access, while increasing incentives for cost control, is the introduction of a system of risk-adjusted capitation payments to either consumers or health insurers.

1 This chapter is partly based on De Bruine and Schut (1990) and Schut and Van Hoek (1993).

4.1 Introduction

One of the most intriguing problems concerning the functioning of competitive health insurance markets is the potential for market failure because of adverse selection. The adverse selection problem has become a popular subject matter, originally only in insurance trade journals, but since the last decade also in the scientific literature. Despite the considerable and still growing attention for the adverse selection problem, evidence about its nature, magnitude or even existence is confusing. While some authors claim that adverse selection is a serious problem to competitive health insurance markets (Price and Mays 1985a, b) others conclude that the problem may be of minor importance (Wolfe and Goddeeris 1991) or probably is not a problem at all (Pauly 1985).

This chapter investigates the changing nature of the adverse selection problem in the Dutch private health insurance market from its inception at the beginning of this century until the present. Thus, adverse selection is studied from a dynamic instead of the usual static perspective.

For two reasons the Dutch private health insurance market is of particular interest. Firstly, contrary to most other European countries, private health insurance is not supplementary to public (or social) insurance but provides complete coverage for about one third of the Dutch population. Secondly, contrary to the US, where about 90% of all health insurance contracts are employment-related group contracts, about two thirds of health insurance contracts in the Netherlands are concluded with families or individuals. Clearly, an individual insurance market is more susceptible to adverse selection than group insurance market. Hence, the Dutch health insurance market can provide an interesting case study about the relevance of adverse selection in individual health insurance markets.

As will be demonstrated, the nature of the adverse selection problem in the Dutch health insurance market changes from period to period, partially caused by changing structural conditions (such as the evolution of information technology and the increasing cost of medical care), and partially caused by insurers' conduct.

In section 4.2 the nature of the adverse selection problem will be analyzed. The third section provides a categorization of the available strategies to deal with adverse selection. The method of investigation and the data sources used are described in two subsequent sections. Finally, the empirical results for each of the distinguished periods are presented.

4.2 The nature of the adverse selection problem

The total amount of risk which is transferred by an insurance contract from the consumer to the insurer can be divided into a 'natural risk' and a 'structural risk' component (Hoy 1988). Natural risk is associated with the random nature of losses, implying that no information can possibly be obtained that would allow one to improve the prediction of the outcome associated with the risk. Structural risk, on the other hand, occurs as a result of a lack of information concerning predictable outcomes associated with different risk types.

When suppliers and purchasers of insurance contracts in a competitive market have exactly the same risk information (symmetric information), a set of equilibrium contracts always exists. If, for instance, both parties are completely ignorant of the existence of structural risk, insurers will charge the same rate to all applicants and risk-averse individuals will buy these contracts, provided that the loading fee is sufficiently low. If, on the contrary, both parties are fully aware of the occurrence and magnitude of structural risk, competition induces insurers to charge each individual his risk-class-specific rate, thereby eliminating the structural risk component. Again, risk-averse individuals will buy such contracts if the loading fee – including a compensation for the cost of risk classification – is sufficiently low.

However, particularly in health insurance markets the presence of symmetric information is unlikely. The reason for this is that sellers and buyers of insurance policies have a different type of risk information. Health insurers can obtain 'objective' information about the riskiness of applicants by gathering data on characteristics that are correlated with risk (through application forms, medical examination and analyzing claims data). Insureds, on the other hand, have 'subjective' information about their loss propensities, which is largely based on past experience and actual knowledge of their health status. Besides, especially in case of medical care, consumers can often directly influence both the occurrence and magnitude of a loss (moral hazard). Empirical studies have shown that consumers can accurately forecast their risk and plan the purchase of health insurance coverage accordingly (Marquis and Phelps 1987, Marquis 1992).

If consumers are able to predict the structural risk component more accurately than insurers or if insurers – for whatever reason – do not use available information to reduce structural risk, adverse selection may arise. In spite of the abundance of theoretical and empirical studies about adverse selection, definitions are rather imprecise if provided at all. Probably the most commonly used definition is provided by Cummins et al. (1983, p. 28), who define adverse selection as 'the tendency of high risks to be more likely to buy

insurance or to buy larger amounts than low risks'. However this definition is not satisfactory because it does not include the presence of asymmetric information. As argued above, in absence of information asymmetry there is nothing adverse about high risks being more likely to buy (larger amounts of) insurance.

Therefore, adverse selection is defined here as the tendency of relatively high-risk individuals *within an actuarial risk group as distinguished by an insurer* to be more likely to buy insurance or to buy larger amounts than relatively low-risks *within the same actuarial risk group*. This definition denotes what Pauly and Langwell (1983) have labeled 'true' adverse selection, to distinguish it from risk rating or preferred risk selection. Furthermore, Pauly and Langwell distinguish between 'essential' and 'avoidable' true adverse selection. If insurers possess or can easily obtain information about risk characteristics of applicants or policyholders but do not use it, the resulting adverse selection may be to some extent avoidable. Hence, true adverse selection is only essential if insurers use all 'easily observable risk information'.

However, it is not quite clear what kind of information is 'easily observable' to the insurer and therefore how essential adverse selection should be measured. As shown by Van de Ven and Van Vliet (1995) the extent of informational asymmetry can be largely eliminated by using a sufficiently refined risk rating system. Their findings do not necessarily imply, however, that essential adverse selection is not a problem in unregulated health insurance markets, because they ignore the cost to individual health insurers of applying such a refined rating system. Rather, their findings provide evidence of the potential of a well designed centrally administered voucher system to minimize adverse selection.

In a competitive insurance market the degree of rate discrimination based on risk classification will be limited by the extent to which the cost of risk classification can be passed on to insureds (see chapter 3). A very differentiated premium schedule can be too complicated and too expensive to be handled in practice (De Wit 1986). Hence, there is a clear trade-off between the benefits of risk rating (i.e. reducing adverse selection) and its costs.

Sloan (1992, p. 354) argues that in the US 'for most of the period since the 1930s when health insurance first evolved, the profit-maximizing amount of information gathering was not very large.' This may be explained by the dominance of experience-rated group contracts in the US health insurance market. Group underwriters are primarily interested in whether the group as a whole can be insured.[2]

Surprisingly, however, for a long time Dutch health insurers even ignored an instantly observable risk factor such as age, despite the predominance of individual health insurance in the Netherlands. This suggests that at least part

of the prevailing adverse selection may not be essential. The reasons behind the abstinence from risk classification in the individual health insurance market in the Netherlands will be highlighted below.

4.2.1 Three adverse selection problems

Adverse selection is often held responsible for several problems concerning the performance of insurance markets. A review of the studies that deal with 'the' adverse selection problem reveals that in fact three interrelated adverse selection problems can be distinguished. Two problems concern the impact of adverse selection on efficiency, the third concerns its impact on equity.

Firstly, adverse selection may involve a *welfare loss for low-risk individuals.* When an insurer cannot distinguish between different types of risks, low-risk individuals can only avoid subsidizing high-risk individuals by purchasing low-coverage policies (Rothschild and Stiglitz 1976). So, asymmetric information may result in underconsumption of insurance by low-risk individuals. Empirical studies using data from the Rand Health Insurance Experiment (HIE) show that consumers can accurately forecast future health care spending and that the anticipated level of future spending is positively related to the preferred level of insurance coverage (Marquis and Phelps 1987, Marquis 1992). However, as argued by Sloan (1992), the HIE obtained no information on insurer behavior, making inferences about the actual existence and magnitude of adverse selection questionable. Wolfe and Goddeeris (1991) found a small adverse selection effect in the US market for Medicare supplementary insurance, where individuals who have recently experienced high health care expenses unexplained by their personal characteristics find it advantageous to buy supplemental insurance. Browne (1992) finds some evidence of the existence of adverse selection in the US individual health insurance market because low-risk individuals do purchase less insurance in the individual than in the group market. However, as Browne admits, an alternative explanation is that due to constrained choice in the group market low risks may be forced to buy more insurance than they would otherwise choose.

2 In a large group of employees (and their dependents) there is no need to differentiate premiums as long as all employees participate. Only when employees have multiple insurance options to choose from, or when the group of employees is too small to apply the law of large numbers, risk rating becomes relevant. In the late 1980s more than two-thirds of US employees with group insurance were offered only a single option, although the proportion of employers that offer multiple choice was steadily increasing (Short and Taylor 1989). Hence, it is not surprising that in quoting premiums group insurance plans are reluctant to use even easily observable demographic characteristics that correlate with health risk, such as age and sex (Newhouse 1984, Pauly 1986, Marquis 1992). In contrast, medical underwriting is customary in the American individual and small-group health insurance market, usually involving rated premiums, exclusion waivers or denial of insurance (OTA 1988).

Although the available research provides some evidence of low-risk individuals purchasing less insurance coverage than high-risk individuals, the welfare implications are unclear. For several reasons the evidence of a welfare loss for low risks due to adverse selection is not conclusive. Firstly, the optimal amount of health insurance is also determined by the existence of moral hazard. Moral hazard is the extra consumption of medical care resulting from the fact that insurance lowers the price of care to consumers. Other things being equal, the greater the strength of moral hazard, the lower the optimal level of coverage. Moral hazard can be limited by increasing insurance premiums disproportionately with coverage (Zeckhauser 1970). On the other hand, a reduction of insurance coverage generates a welfare loss for risk averse individuals. Consequently, the determination of the optimal level of health insurance coverage involves a trade-off between the welfare gains resulting from risk reduction, which depend on the degree of risk aversion, and the welfare loss resulting from moral hazard. Secondly, a potential underconsumption of insurance by low-risk individuals may well be compensated by other distortions in the system, such as US tax subsidies on the purchase of health insurance (Pauly 1985).

A second efficiency problem due to adverse selection is the potential *non-existence of a competitive equilibrium* and the consequent failure of efficient health insurers.[3] Rothschild and Stiglitz (1976) show that a Nash equilibrium set of contracts cannot be sustained if the proportion of high risks is sufficiently low. Moreover, the likelihood of a non-existent equilibrium increases with the number of different risk classes (Spence 1978, Riley 1979). Although equilibrium can be sustained if insurers have foresight instead of being myopic (Wilson 1977), such a scenario is implausible in unconcentrated health insurance markets (Pauly 1986). Hence, the existence of market equilibrium may be threatened by the continuing introduction of plans designed to attract low risks away from the existing plans. As a result, more comprehensive plans could get caught in a fatal spiral of rising premiums and an ever-worsening risk pool.[4] Eventually, this premium spiral may jeopardize

3 As Pauly (1985) points out, an efficient outcome does not require that all efficient firms survive but only that inefficient firms die. However, the continuous exit and (re-)entry of health insurance plans will probably not be without sunk costs, in which case a welfare loss occurs. Moreover, the risk of insurer default is likely to impose costs on the buyers of insurance policies (providing the rationale for solvency regulation).

4 Feldman and Dowd (1991) argue that the possibility of a premium spiral does not depend on asymmetric information but only on the propensity of relatively favorable risks to disenroll from the high-risk plan. Hence, the presence of premium spiral would provide no evidence for the non-existence of an equilibrium as supposed by Rothschild and Stiglitz. However, this argument does not seem valid. In absence of asymmetric information, insurers could charge each risk an appropriate premium, so there would be no incentives for low-risk individuals to disenroll. Thus a precondition for the existence of a premium spiral is that insurers do not rate every risk correctly.

the solvency of the adversely-selected plan.[5] According to the Rothschild-Stiglitz scenario, the entrants in turn would become victims of adverse selection, because they too cannot prevent high risks from enrolling and subsequently low risks from disenrolling the plan. Price and Mays (1985a, b) found evidence of a premium spiral due to adverse selection in the US Federal Employees Health Benefits Program (a multiple-choice, multiple-insurer system). They found that *on average* health plans in each of the four market segments they distinguish (i.e. very low, low, medium and high option plans) experience neither adverse nor favorable selection. However, within each segment they found that selection worsens over time. So, selection deteriorates not only for comprehensive plans but also for all other health plans. This implies that 'plans which are currently weak will die and the currently strong will weaken', because 'with free entry the latter plans will lose their better risks to new (strong) plans, continuing the process' (Price and Mays 1985b, p. 145). The findings of Price and Mays suggest that a plan's age rather than its comprehensiveness makes it vulnerable to a fatal premium spiral. This hypothesis will be tested in the context of the Dutch private health insurance market.

Feldman and Dowd (1991) contend that it is possible but not likely for adverse selection to send the adversely-selected plan into a fatal premium spiral of rising premiums and declining membership. They argue that the premium spiral may be self-limiting if the distribution of risks is non-exponential and if adversely-selected plans have specific characteristics that are preferred by some consumers (e.g. unrestricted choice of physicians in FFS insurance as opposed to limited choice in HMOs).[6] With a uniform distribution of risks the premium difference between plans will remain constant if the market share of the adversely selected plan decreases. The market share will continue to decrease until only those consumers are left whose preference for the specific plan characteristics outweighs the premium difference. But Feldman and Dowd do not provide any empirical evidence of a uniform distribution of risks. Moreover, a fatal premium spiral may still occur among health plans that are similar (except for price). Nevertheless, several empirical studies show that *other* switching costs may create sufficient consumer inertia to prevent fatal premium spirals (Neipp and Zeckhauser 1985, Schuttinga et al. 1985, Samuelson and Zeckhauser 1988).

The relevance of the Rothschild and Stiglitz model for the functioning of

5 Rothschild and Stiglitz assume that each insurer issues but a single contract, so insurers cannot balance losses on one policy with profits on another. In practice, however, insurers can offer several plans, so that the failure of a single plan does not necessarily mean that the insurer goes bankrupt.

6 The second condition implies that the health insurance market would be characterized by monopolistic competition.

actual insurance markets is constrained by the fact that their analysis is confined to a single period. In many insurance markets insurers offer multi-period contracts. In the case of a single-period contract, neither sellers nor buyers are bound to renew the insurance contract after the contract period has expired. By contrast, multi-period contracts imply that insurers have to renew the contract in the next period, although renewal usually is not binding on the policyholders. Multi-period contracts offer insurers the opportunity to experience rate, that is, to adjust premiums in the next period to the observed loss experience of their policyholders. Hence, the information asymmetry between insurers and subscribers is partially replaced by an information asymmetry between competing insurers. Experience rating of individuals or groups may reduce moral hazard (by rewarding those with low claims in the current period with lower premiums in the next period) as well as adverse selection.

Different models of insurance markets with experience rating are developed by Kunreuther and Pauly (1985) and Cooper and Hayes (1987). Depending on the assumptions about insurer and consumer behavior opposite pricing strategies may evolve. Kunreuther and Pauly show that the presence of individually experience-rated multi-period contracts can stabilize a competitive insurance market in which insurers have foresight but consumers are myopic. Specifically insurers are assumed to maximize discounted expected profits, whereas consumers are assumed to choose only on the basis of current period prices, selecting the insurer with the lowest current premium. In such a market insurers may be willing to tolerate negative expected profits in the short run in order to attract subscribers and observe their claims experiences, so they can then use this information to offset the initial losses. Hence, initially multi-period contracts are unprofitable but in subsequent periods insurers can extract rent from private information to break-even in the long run. Losses taken on the first period may be viewed as the price for the right to acquire future private information.

By contrast, in a two-period generalization of the Rothschild and Stiglitz model, Cooper and Hayes (1987) demonstrate that an opposite pricing strategy is also feasible. Assuming that a Nash separating equilibrium exists, they show that individual experience rating can be used to induce self-selection. Low-risk individuals can be induced to select an experience-rated two-period contract that is binding only on the insurer. High-risks individuals are induced to select single-period contracts that are not experience rated. Initially the two-period contract is profitable to the insurer but in the subsequent period it will become unprofitable, yielding zero profits over both periods. The high initial premium for the two-period contract may be thought of as the price the low-risk consumer has to pay to distinguish himself from

high-risk consumers in the next period. In contrast to the model of Kunreuther and Pauly, a competitive equilibrium may not exist if the proportion of high risks is sufficiently low.

D'Arcy and Doherty (1990) find some evidence of a pricing strategy in the US automobile insurance market which is consistent with the predictions of the Kunreuther and Pauly model. However, the assumptions made by Kunreuther and Pauly and Cooper and Hayes are rather restrictive. For instance, they assume that multi-period contracts are 'closed' contracts, which implies that the contract cannot be purchased by new applicants in the next period. Hence, insurers are supposed to add in each period a new multi-period contract to their menu of policies. If, instead, multi-period contracts are open to new applicants, premium spirals may still occur and a market equilibrium may fail to exist. Furthermore, Pauly and Kunreuther consider data on claims experience of policyholders as completely private information. In practice, however, insurers often require applicants to complete a health history questionnaire, including a specification of (medical) expenses during the preceding period. Though this information may be less reliable than the insurer's own claims data, it substantially reduces the information asymmetry among insurers. If insurers cannot effectively conceal information about the risk of their policyholders from other insurers, equilibrium breaking contracts may still be feasible.

A third often mentioned problem of adverse selection concerns its alleged *adverse effect on equity* (Enthoven 1980, Pauly 1986). The fact that adverse selection may result in a self-selection equilibrium in which each risk type has to pay an actuarially based premium is commonly regarded as unfair. Especially in health insurance actuarially fair premiums would result in a huge premium differentiation, given the wide disparity of health risks and the high costs of some medical treatments. In fact, for a substantial part of the high-risk individuals health insurance would become unaffordable if premiums were to be tailored to their risk.

In fact, however, this inequity problem does not stem from adverse selection but from competition. In a competitive insurance market, high-risk individuals would have to pay an actuarial rate plus loading both in case insurers have perfect information and in case insurers do not have any information and a self-selection equilibrium is feasible. In addition, if insurers have imperfect rather than perfect or no information, they can employ other strategies to match premiums to risks, such as excluding pre-existing conditions from coverage, with comparable adverse effects on equity (Light 1992, Stone 1993). So an unregulated competitive insurance market tends to generate an outcome in which prices are tailored to risk, irrespective of the extent and magnitude of adverse selection (or informational asymmetry). The underlying problem is

that this outcome is unacceptable to society. Hence, health insurers have to find a proper balance between social pressure to restrict risk rating or risk selection and competitive market forces to do the opposite.

4.3 Insurer strategies to deal with adverse selection

Insurers can employ quite a number of tools to deal with adverse selection. These tools can be categorized into five different strategies: risk rating, preferred risk selection (or cream skimming), encourage signalling (or sorting), raise switching costs and collusion.[7]

With *risk rating* the insurer uses information that is correlated with risk to differentiate premiums accordingly. Premium differentiation is the expected outcome from competition. Two types of risk rating can be distinguished. Firstly, risk rating can be based on *ex ante* risk classification. Insurers can group together individuals with identifiable characteristics and similar probabilities of loss into relatively homogeneous risk classes. In non-life insurance markets commonly used risk classification factors are age, sex, marital status, occupation, place of residence, and several proxies for health status. Consumers are often required to reveal such characteristics when applying for insurance. The second type of risk rating is experience rating, that is *ex post* premium adjustment based on the loss experience of the applicant or policyholder. Experience rating can be viewed as either a substitute or a complement to risk classification.[8] Several ways of experience rating can be discerned. Firstly, the insurer can offer a contract contingent on the outcome of previous insurance contracts, requiring applicants to complete a health history questionnaire. Secondly, in the case of multi-period contracts, insurers can adjust next period's premiums by observing the claim records of their policyholders. In addition, experience rating can be applied either to individuals or to groups. Experience rating of groups is a straightforward

7 In addition, an insurer can also deal with adverse selection by shifting the risk to providers, for instance by reimbursing physicians on a capitation rather than on a fee-for-service basis. This strategy is left out of consideration because it merely shifts the adverse selection problem to the physician without effectively dealing with it. Moreover, Dutch private health insurance companies traditionally supported the fee-for-service payment system and were anxious not to interfere in the doctor-patient relationship.

8 Dionne and Harrington (1992) discern two polar cases in which either risk classification is useless (in case infinite-length contracts yield the same solution as with full information) or experience rating is irrelevant (in case costless risk classification permits full observation of an individual risk). Based on an extensive literature review, they conclude that while experience rating, risk classification and sorting contracts are used simultaneously in most markets, economic analysis to date has considered the three mechanisms independently.

option in the group insurance market, but it is also applied in individual insurance markets. For instance, insurers can periodically introduce new multi-period contracts, while adjusting the premiums of the previous contracts – which are 'closed' (or unattractive) to newcomers – to the observed loss experience of the group of policyholders. By frequently adding new policies to their existing menu of contracts, insurers can prevent the new subscribers having to cross-subsidize the rest of the portfolio which is getting older and sicker over time. Hence, in this way insurers may try to remain attractive to new subscribers.

Preferred risk selection can be considered as a substitute for risk rating. When insurers *can* distinguish risks but risk rating is too expensive, not permitted or inappropriate[9], they can try to control enrollment by selective underwriting. The four main selective underwriting practices are denial of coverage to high risks, excluding certain pre-existing conditions from coverage, selective marketing and disenrolling high risks. Basically, two distinct strategies to exclude pre-existing conditions from coverage can be distinguished: exclusion waivers and pre-existing condition clauses (Stone 1993). The main difference is that in writing an exclusion waiver into a policy insurers have to detect the applicant's medical problem *before* issuing the policy, while a pre-existing condition clause allows insurers to refuse payment *after* issuing the policy for any condition the insured had prior to the policy issue date (notice that in the latter case insurers do not need any information about the applicant).[10] So, adverse selection can be reduced ex ante by exclusion waivers and ex post by pre-existing condition clauses.

Risk rating and preferred risk selection can be applied when insurers are able to distinguish risks. When insurers *cannot* distinguish the risks of potential consumers, they can anticipate adverse selection by encouraging consumers to *signal their risk*. Instead of tailoring premiums to risk, insurers can design insurance contracts in such a way that high risks will be discouraged and favorable risks will be attracted. Important self-selection devices are limited coverage, high deductibles, and substantial copayments and payment caps for

9 If risk rating results in small actuarial groups for certain risks, an appropriate premium can not be determined because the law of large numbers is not applicable. In that case, insurers would find denial of insurance to those risks a more attractive alternative. In addition, for some (high) risks insurers may find it too difficult to determine the expected loss, in which case they also may prefer to deny insurance (Newhouse 1984).

10 Pre-existing condition clauses can be interpreted to exclude from coverage all conditions that actually did exist before the policy was issued (known as the 'objective' interpretation) or only those conditions the insured could be supposed to know about before buying coverage (the 'subjective' interpretation). In the Netherlands, health insurers initially adhered to the objective interpretation (Kunneman 1951, Van Leeuwen 1952) but during the 1950s most adopted the less stringent subjective interpretation (Zeven 1963).

specific benefits (e.g. drugs). In a Rothschild and Stiglitz' model of an idealized competitive insurance market with extremely asymmetric information, profit-maximizing insurers (displaying Nash-type behavior) have no other choice than relying on self-selection, because it is the only way they may survive.
A fourth strategy insurers can pursue when they *cannot* distinguish risks is to *raise switching costs*. Insurers can deter consumers from switching plans too easily, by long-term insurance contracts, by requiring waiting periods before benefits become effective, and by limiting the possibilities to change plans to certain 'enrollment dates' (Pauly 1984).
Finally, insurers may try to cope with adverse selection by overt or tacit *collusion* to reduce competition. By concluding agreements about using uniform rating systems, similar underwriting practices, and standardized policies, by sharing (statistical) information and by supporting a shared pool for high-risk groups, insurers can substantially mitigate adverse selection.

4.4 Method of investigation

The dynamics of adverse selection in the Dutch private health insurance market will be investigated by analyzing the evolution of the structure, conduct and performance of the Dutch private health insurance industry throughout this century. Five distinct periods will be discerned, which are demarcated by significant changes in market structure and insurer behavior. For each of these periods answers will be sought to the following two questions:
1) What is the nature and extent of the adverse selection problem?
2) What are the dominant insurer strategies to deal with adverse selection?
With regard to market structure, the investigation will concentrate on entry, exit and the rise or decline of market share of different types of health insurance plans. In addition, other important structural conditions will be examined, such as the institutional context, the nature and relative size of health care expenditures, and the availability of statistical information about health risks. The examination of insurer behavior will focus on the predominant underwriting and rate-making practices and on the prevailing insurance policy conditions. For the period 1971-1985 an empirical model is developed to test the occurrence of premium spirals. The model is evaluated in five successive time intervals for a sample of the initially 35 and since 1975 32 largest health insurance companies. The finding of Price and Mays (1985b) that health plans may eventually become victims of their own success is tested by estimating the effect of health plans' past performance on premium setting. Finally, the hypothesis is tested that health insurers which are most exposed

to a deadly premium spiral will be the most inclined to engage in cream skimming and risk rating. Price-setting in health insurance will also be analyzed on an aggregate level. Using time-series data on loss-ratios, the presence and nature of a health insurance underwriting cycle for different categories of health insurers will be examined.

4.5 Data sources

The evolution of the Dutch private health insurance market is poorly documented as compared to that of the social health insurance sector. A review of the major insurance trade journals and an extensive literature search were undertaken to trace the relevant publications on health insurance throughout this century (for a detailed description see Appendix A). The most important studies of the Dutch private health insurance industry are those of Kunneman (1951) and Zeven (1963). At the time, both authors were managing directors of a major commercial health insurance company. In his dissertation, Kunneman (1951) analyzed the evolution of the private health insurance industry during the prewar period. Zeven (1963) provides an overview of the expansion of the private health insurance market industry during the subsequent two decades. Both authors contend that adverse selection was the most critical problem for private health insurers.[11]

4.5.1 Data on market structure and performance

The Netherlands Central Bureau of Statistics periodically produces aggregate financial data of non-life insurance companies (CBS 1957a-1992a). As a result fairly consistent time series data on aggregate premiums, losses, results, technical provisions, reserves, investments by line of insurance are available since 1951. Unfortunately, however, health insurance (i.e. medical expense insurance) is not displayed as a separate insurance line. Usually, health insurance data are consolidated with data on short-term and long-term disability insurance.

In 1975, the coordinating trade association of private health insurers (KLOZ) set up a foundation (KISG) to gather and disseminate aggregate statistical data concerning characteristics and health care utilization of the privately insured population. At first, these statistics comprised of only 25% of the private

11 Kunneman (1951, p. 91): 'It cannot be emphasized too much, that the problem of adverse selection is of predominant importance amidst all health insurance problems, and that it is the cause of the many troubles encountered by the industry'. Zeven (1963, p. 81): 'Although self-selection by the insured is manifest in every insurance line, it is particularly strong in health insurance and constitutes for the insurer one of the most important problems.'

health insurance market, but this proportion steadily increased to more than 80% in 1990. However, until 1986, aggregate statistical data on the structure and performance of the Dutch private health insurance industry are virtually non-existent. Only since 1987 some structure and performance data have been gathered by a yearly market survey, covering about 90% of the market. These data are comprised of a crude distribution of relative market shares and total net premiums, losses, administrative costs and underwriting profits.

Due to the paucity of readily accessible aggregate statistics, a data-set had to be constructed by investigating a number of other sources. An important source of information about establishments, mergers, take-overs and failures of health insurance companies are the annual insurance guidebooks (Jaarboek voor het Assurantie en Hypotheekwezen), first published in 1904. These guidebooks provide basic information concerning most of the insurance companies in the Netherlands (name, address, type, insurance lines, and some key figures). Additional information about entry and exit of health insurance companies is derived from Kunneman (1951) and the registers of the major insurance trade journals and the official State Journal (Nederlandse Staatscourant).

Information about market shares during the prewar period could not be traced because a substantial number of health insurers either released only general balance sheets or did not publish annual reports at all. During the postwar period, the publication of annual reports became customary, but until the mid 1960s comparison of data remains complicated due to the lack of uniformity in reporting. Besides, commercial multiple-line insurers often did not separate health insurance from other lines of insurance. On the other hand, annual reports of the trade associations of commercial health and disability insurers (NVOZ) and mutual health insurers (FOV) sometimes provide data on the total health insurance premium revenues of their members. In addition, inside information about relative market shares was frequently disclosed in publications of the insurance press. By using this information and by extrapolation based on aggregate data on the relative growth of the different lines of insurance, the total market shares of different categories of health insurers could be estimated.

For the period 1968-1984 market shares and loss ratios were calculated. Calculations were based on data from the annual reports and the legally required official publication accounts of the 35 largest health insurance companies (reduced to 32 insurers in 1975 due to a merger), accounting for about 90% of total premium income (see appendix B for a specification). In addition, data were derived from the yearly published statistical reviews of gross premiums and losses by line of insurance for all but very small non-life insurance companies (Vereenigde Verzekerings Pers 1968-1992). The 1966 Act

on Non-life Insurance (WOS) obliged non-life insurers to use standard reporting methods and to use the same division in insurance lines. These data had to be submitted in standard format, known as official publication accounts, to a supervising government body (Verzekeringskamer), being in charge of monitoring the solvency of insurance companies. Regrettably, health and disability insurance were not separated in different lines. Although a substantial part of the health insurance industry consists of specialized health insurers, a significant number of, particularly commercial health insurers also sell disability insurance. Hence, in these instances market shares had to be estimated by using additional information. Because health insurers were legally required to accumulate specific reserves as a percentage of their annual premium income, the premium income of health and disability insurance could often be disentangled. Subsequently, health insurance loss ratios were estimated by adjusting the loss ratios of health and disability insurance for the average difference in the loss ratios between comparable pure health and pure disability insurers, weighted by the relative premium shares of health and disability insurance.

4.5.2 Data on premiums, contract conditions and underwriting practices

Information on premiums and contract conditions were derived from several comparative studies and from excerpts and reviews of insurance policies in the insurance trade journals.

The first review of private health insurance policies and underwriting practices was published by Pieterse (1916), managing director of one of the earliest health insurance companies. In 1924 the Netherlands Medical Association (NMG) appointed a committee to study the provision of health insurance for the middle classes. As part of this study the committee made an extensive comparison of all policies offered by nine health insurance companies (Pinkhof and Vrendenberg 1925). Kunneman (1951) provides information on premium setting, insurance policies and underwriting practices during the period 1910-1950. In a dissertation by Van Leeuwen (1952) hospital insurance contracts and underwriting practices of 70 health insurance companies in 1950 are extensively analyzed. Zeven (1963) describes the changing terms of the health insurance policies during the 1950s, culminating in the adoption of a uniform health insurance policy by 30 commercial insurers in 1957.

Since 1968 the Dutch Consumers Union (Consumentenbond), which is set up by consumers to monitor price and quality of products and services, periodically examines nearly all individual health insurance policies. These surveys provide data on premiums, deductibles and insurer' characteristics used in the empirical analysis of the determinants of the changes in relative market shares of health insurers during the period 1968-1984.

4.6 The rise and decline of the private health insurance industry

The transformation of the private health insurance industry during the twentieth century is analyzed below for five consecutive periods.

4.6.1 The period 1910-1940: an unstable health insurance market

The take-off of the private health insurance industry took place at the end of the first decade of this century. In addition to a large number of rapidly expanding sickness funds, which provided service benefits to lower income groups, private health insurance companies were founded to cover medical expenses of the middle class. The increasing costs of drugs and medical treatment had generated a growing demand for health insurance among middle income groups (Pieterse 1916). Most sickness funds reimbursed physicians on a capitation basis, involving a fixed payment for each enrolled person per period of time. These capitation payments were low in comparison to the level of private fees, which were usually set in accordance to the wealth of the patients. The Dutch Medical Association (NMG) feared that sickness funds would expand their market to the middle class, which would imply a reduction of their financially attractive private fee-for-service practice. To prevent this, the medical association issued a resolution in 1912, which was binding on its members and stipulated that physicians were only allowed to contract with sickness funds that would restrict their activities to the lower income groups (below a specified income limit). Owing to this binding resolution the health insurance market was effectively split into two segments: one segment consisting of sickness funds, contracting with physicians on a capitation basis and providing service benefits to the lower income groups; the other segment consisting of private health insurers, offering indemnity insurance to middle (or higher) income groups.

Contrary to the sickness funds, private health insurers did not conclude contracts with physicians. Physicians were free to determine fee levels and middle or higher income groups were free whether or not to buy health insurance. Insureds could determine the extent of insurance coverage by choosing among different levels of cash reimbursement for the cost of medical care received (i.e. they could choose lower reimbursement levels than the fees charged by physicians).

Sickness funds were able to shift most of the insurance risk to the general practitioners by means of the capitation payments system. Moreover, most sickness funds did not cover the cost of hospital care, surgical operations and specialist treatment. Providing financial access to hospital and specialist care was traditionally left to municipal governments and later also to local hospital insurance funds (*ziekenhuisverplegingsfondsen of -verenigingen*). These funds

were established primarily in rural areas since the early 1920s (Van der Velden 1993). Hence, the most important risk for sickness funds were pharmaceutical expenditures.

In contrast with the sickness funds, private health insurers were not able to shift part of the risk to the providers because physicians were not inclined to give up fee-for-service practice. The first private health insurance plans were specialized mono-line insurers, either commercial (stock) or non-profit (mutual) companies. These insurers typically provided coverage of rather comprehensive benefits, including visits to general practitioners, prescription drugs, hospital care, and, less frequently, surgical operations and specialist treatment.

Until the 1920s hospital and specialty care played a relatively minor role in health care delivery and most medical expenses resulted from consultations of general practitioners and consumption of prescription drugs. The demand for private health insurance was limited because the high income and low-risk middle income groups could easily afford to pay medical expenses out of pocket. Nevertheless, the number of private health insurers in the urbanized western part of the country rapidly increased (see Table 4.1). The competition among these insurers was intense due to the very low entry and exit barriers.

Table 4.1 **Establishments and failures of comprehensive health insurance and hospital insurance lines by new or existing insurance companies, 1901-1940**[a]

Period	Number of establishments			Failure rate (in %)[b]			Years in operation before failure	
	Comprehensive health insurance	Hospital insurance	Total	Comprehensive health insurance	Hospital insurance	Total	Mean	SD
1901-1910	6	0	6	50.0	–	50.0	13.3	8.6
1911-1920	10	0	10	70.0	–	70.0	11.0	7.6
1921-1930	19	13	32	52.6	0.0	31.3	8.3	6.1
1931-1940	27	30	57	55.6	23.3	38.6	8.7	6.9
1901-1940	62	43	105	56.5	16.3	40.0	9.3	7.1

a Hospital insurance plans only cover hospital care and specialists' treatment, whereas comprehensive plans also provide coverage of visits to general practitioners and of prescription drugs. Only plans providing indemnity insurance to the medium and higher income groups are included (accordingly, sickness funds and local hospital insurance funds are not included).

b Failure rate is defined as the percentage of insurers, starting in the period under consideration, that stopped writing health insurance or became a bankrupt.

Source: Appendix C.

Table 4.2 **Review of tools used to deal with adverse selection in the Dutch individual health insurance market**[a]

Strategies and tools per strategy	Periods			
	1910-1940	1941-1956	1957-1970	1971-1985
Risk rating				
Risk classification (factors)				
– Age (limits of distinguished age classes in years)[b]	<1 • <16-18 ••• ≥50-55 ••	<1 • <16-18 ••• ≥50-55 ••	<16-18 ••• ≥50-55 •	<16-21 ••• 21 22 } classes .. } 1 year 49 } each[c] 50 } •••
– Sex	•••	••	••[d]	••[d]
– Marital status	••	•••	••[d]	••[d]
– Place of residence	-	-	•••	•••
– Health status	-	-	-	•
Experience rating				
– Individuals	•	•	-	-
– Groups (with 'closed' multi-period contract)	•	•	•	•
Preferred risk selection				
Denial of regular coverage to applicants[e]				
– Above age limit	≥55-65 ••	≥55-65 ••	≥60-65 ••	≥60-65 •••
– Applicants with chronic conditions	•••	•••	•••	•••
– Newborn children with handicaps	•••	••	-	-
Exclusion of pre-existing conditions	•••	•••	•••	••
Disenrolling high risks				
– No renewal of contract or reducing coverage at renewal date	•••	••	-	-
– Termination of contract at certain age	≥55-65 ••	≥50-70 •	-	-
– Termination of contract after high claim(s)	••	•	-	-
Selective marketing	-	•	•	••
Encourage signalling				
Benefits design (limited coverage of benefits that attract high risks)	•••	••	•	•
Different levels of cash reimbursement	•••	••	•	-
Deductibles	-	-	•	•••
Raise switching costs				
Contract period (years)	1 •• 5 ••	1-5 ••• 5-10 •	1-5 •••	1-5 •••
Waiting period (months)	1-3 •••	1-3 ••	-	-
Surcharges for applicants above certain age (years)	≥50-55 •••	≥50-55 ••	≥50-55 •••	≥45-55 •••
Collusion and co-operation				
Uniform policies	-	-	••	•
Standardized policy conditions	-	•	••	••
Sharing statistical information	-	-	•	••
Shared risk pools for high risks	-	•	•••	•••
Codes of conduct for underwriting	-	-	-	••

Private health insurance was generally considered to be the most difficult line of insurance. Actuarial knowledge and experience were completely lacking and even potential risk factors were largely unknown to insurers. There are several reasons for the absence of actuarial information. Firstly, the portfolios of health insurers were too small to determine the effect of the different potential risk factors. Secondly, the frequent changes in the terms of policies made longitudinal analyses impossible. Thirdly, the relatively high administration costs (regularly accounting for 40 to 50% of the premium income) and low profit margins did not allow for gathering and analyzing statistical data. Finally, the available statistical methods and actuarial skills were inadequate to analyze the data. The first actuarial study about rate setting in health insurance was only published in 1940 in Germany (Tosberg 1940). As a consequence, risk rating was virtually absent (see Table 4.2). The undifferentiated (or pooled) premium rates tended to attract primarily relatively high risk groups. Besides, the problem of determining adequate premiums was exacerbated by the fact that the demand for GP services and drugs, which initially constituted the largest part of medical expenses, was highly susceptible to moral hazard. In comparison to the demand for hospital care, the demand for primary care and drugs was easy to manipulate by consumers and providers and very difficult to monitor by insurers.

All insurance policies were single-period contracts, implying that renewal was not binding on both insureds and insurers. Entrants to the health insurance market regularly set their premiums simply just below the prevailing premium rates for a comparable coverage. These premium rates were usually insufficient to form appropriate reserves. After several years the former entrants were forced to increase their premiums (sometimes up to 50%) and the relatively good risks switched to new entrants with lower premiums.

As shown in Table 4.1 the failure rate in the prewar period was very high,

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Notes to table 4.2:

a The frequency with which tools were applied are indicated by the following signs:
- ••• = common (more than two-thirds of the health insurers);
- •• = fairly common (between one-third and two-thirds of the health insurers);
- • = uncommon (less than one-third of the health insurers) or occasionally applied;
- - = (virtually) absent.

b Age classes are indicated as follows:
- < x = age class consisting of people younger than x years
- > x = age class consisting of people older than x years

c Rate discrimination by refined age classes was introduced in 1980. Most insurers use age-related deductibles in addition to age-related premiums; some use wider age classes (5-10 years).

d Sex and marital status are only used in combination: single women are frequently charged about 30% higher premiums than single men or married women.

e High-risk individuals may be accepted in shared risk pools.

Sources: Pieterse (1916), Pinkhof and Vrendenberg (1925), Kunneman (1951), Van Leeuwen (1952), Zeven (1963), Consumentenbond (1968, 1971, 1975, 1978, 1981, 1984), Excerpts and reviews of health insurance policies in the major insurance trade journals (1910-1985).

particularly among the comprehensive plans (of which more than 50% failed). The lack of information about the risk of applicants, the myopic pricing strategy and the continuous entry and exit of vigorously competing health insurers during the prewar period correspond to the Rothschild-Stiglitz model of a competitive insurance market with asymmetric information. In other words, the prewar private health insurance market seems to be characterized by an unstable or even non-existing competitive equilibrium due to 'true' adverse selection. Moreover, the observed adverse selection might have been 'essential' too, because throughout this period there was little easily observable information to distinguish among different kinds of risks.

Given the impossibility of risk-rating, insurers had to employ other survival strategies to deal with adverse selection. Table 4.2 provides an overview of the different types of strategies and of the frequency with which they were employed.

The most important tools were the application of crude acceptance criteria and the nonrenewal or even termination of contracts with high-risk individuals. Because medical examinations were too expensive relative to the premium rates, all insurers relied on the use of extensive application forms to select risks. Applicants with pre-existing conditions were offered limited or no coverage. By nonrenewal or termination of insurance contracts or by limiting coverage at renewal dates, health insurers adapted the risk of the portfolio to the undifferentiated premium. As a result of these nonrenewals and the necessary underwriting stringency, the elderly and other high-risk groups often could not purchase private health insurance.

The high failure rate and the harsh underwriting practices contributed to a bad reputation of private health insurance. In 1930 the largest health insurance company (Nieuwe Boerhaave) was adjudged bankrupt after running into huge deficits that emerged from its relatively 'loose' underwriting standards and a misappropriation of funds by the management. This major bankruptcy shook the already weak public's confidence in private health insurance and caused a temporary downturn of the health insurance industry as a whole. Large multiple-line commercial insurance companies eschewed writing comprehensive private health insurance. Instead, during the 1930s, they entered the market by setting up hospital insurance plans, which provided less comprehensive benefits. The increasing importance and rising costs of hospital care had generated a growing demand for hospital insurance. Besides, for several reasons hospital insurance was less risky than comprehensive health insurance. Firstly, consumer induced moral hazard was less of a problem in case of hospital care than in case of primary care and drug consumption. Secondly, owing to their limited coverage, hospital insurance plans were more attractive to better risks than the comprehensive benefits plans. Through self-selection

in hospital insurance plans relatively low-risk individuals were able to reduce cross-subsidization of insurance purchases of high-risk individuals. Moreover, hospital insurance plans were also attractive because their loading fee could be kept lower than that of comprehensive health insurance plans, owing to the relatively low claims frequency of hospital care as compared to GP visits and prescription drugs. As a result, the failure rate among hospital plans was considerably below that among comprehensive health plans (see Table 4.1).

4.6.2 The period 1941-1956: the rise of non-profit foundations

During the second world war the German occupiers imposed the Sickness Funds Decree in 1941. By this Decree the health insurance market was formally split into three submarkets: (1) a compulsory social health insurance scheme for wage-earners and dependents below a specified wage limit (to be adjusted periodically); (2) a voluntary social health insurance scheme for the non-wage-earners (primarily self-employed persons) below a specified income limit[12]; (3) private health insurance for the rest of the population.

The first two schemes were carried out by officially recognized sickness funds. The premium of the compulsory scheme was related to earnings and collected in a general fund, while in the voluntary scheme community rated premiums were mandatory. For both schemes, sickness funds were obliged to accept all eligible applicants. The costs of the compulsory scheme were retrospectively reimbursed and deficits of the voluntary scheme were pooled and largely compensated by government contributions. Hence, sickness funds became merely administrative bodies because they were no longer at risk for the medical expenses of their members.

The voluntary sickness fund scheme and the private health insurance market were not entirely separated. Those eligible for the voluntary scheme could opt for private health insurance. Initially, the voluntary scheme was more attractive than private health insurance even to eligible low-risk groups, in spite of the fact that mandatory community rating and open enrollment implied a cross subsidy from low-risk to high-risk individuals. The reason for this was that the premium of the voluntary scheme could be kept relatively low thanks to government subsidies and lower levels of provider reimbursement and because of the limited risk-rating by private health insurers.

After the war the tripartite health insurance system was essentially maintained, despite proposals to institute a compulsory national health insurance

12 The income limit of the voluntary scheme and the wage limit of the compulsory scheme were equalized shortly after the war. Initially, also the indigent elderly were eligible for voluntary social health insurance. In 1950 they were transferred to the compulsory scheme and subsequently in 1957 to a separate health insurance scheme for low-income elderly (*bejaardenverzekering*), which was heavily subsidized by the government.

scheme. In addition to the existing commercial and mutual companies, two new categories of private health insurers emerged. Firstly, national and regional hospital insurance funds originated from mergers of a large number of local hospital insurance funds. In the prewar period these local funds had provided hospital insurance to most of the residents of rural areas and small communities. The Sickness Fund Decree dictated sickness funds to include hospital care and specialist treatment in their benefits package, thereby depriving the local hospital funds from the major part of their business. Since the remaining number of insureds was often too small to continue writing hospital insurance, most of the local funds decided to merge into several non-profit co-operations. The second new category of private health insurers were foundations that were established by sickness funds. Sickness funds wanted to ensure access to health insurance for those enrollees who lost their eligibility because of exceeding the wage limit. Since these people could be faced by pre-existing condition clauses or denial of coverage in the private health insurance market, sickness funds individually or jointly decided to set up separate foundations which applied very lenient underwriting standards.

The demand for private health insurance rapidly increased as result of the rising costs of medical care and the increasing 'insurance mindedness' of the population, which was effectuated by the compulsory health insurance scheme (once people exceeded the critical earnings limit of eligibility for the social insurance schemes, they almost automatically applied for private health insurance). Particularly hospital insurance plans expanded in size and in number. In 1950 hospital insurance plans were dominating the private health insurance market, together accounting for about 70% of total premium income as compared to only 30% for the comprehensive health insurance plans (Kunneman 1951).

The rapid expansion of the private health insurance market and the inflow of previously uninsured low-risk individuals eased the problem of instability due to adverse selection. Moreover, by the application of stringent underwriting practices, most health insurers were able to mitigate adverse selection problems. Consequently, the overall failure rate dropped to less than 10% (leaving out of account the large number of annulments of small local hospital insurance funds). However, the increasing importance of private health insurance also led to higher social expectations about the conduct of health insurers. The fact that those who most needed health insurance often could not obtain coverage was no longer considered socially acceptable. Hence, the tight underwriting standards of the traditional health insurers came increasingly under attack from the public opinion. Moreover, the strict underwriting practices provided an argument for the government to expand the eligibility for the sickness fund schemes through periodical elevations of

the income boundary between social and private health insurance. The prospect of a gradual socialization was not only disliked by private health insurers but also by the medical association because of the resulting decline of their more profitable private practice. Hence, traditional health insurers were confronted with mounting pressure from society as well as the medical profession to relax underwriting stringency (Schut and Van Hoek 1993).
Probably the most serious threat to the traditional private health insurers were the newly established foundations initiated by sickness funds (*bovenbouwverzekeraars*, hereafter referred to as SF-foundations). These SF-foundations soon became very popular due to their relatively low premiums, favorable policy conditions and liberal underwriting practices. As shown in Table 4.3 during the 1950s the market share of these foundations escalated from 8 to 40 percent, primarily at the expense of the market share of commercial companies.

Table 4.3 **Market share[a] of the four major categories[b] of health insurers during the period 1950-1986[c]**

Category	1950	1955	1959	1960	1965	1970	1975	1980	1985	1986
Commercial Insurers	57	43	35	42	40	36	36	33	29	25
Hospital Insurance Funds	23	22	18	18	14	12	11	11	15	13
Mutual Insurers	12	7	7	8	10	13	14	16	18	19
Sickness Fund Foundations	8	28	40	32	35	39	39	40	38	43

a Market share is defined as percentage of gross premium income. Self-insured plans, accounting for less than 5% of the health insurance market, are left out of consideration.

b The four categories are not completely mutually exclusive nor do they exactly correspond to the membership of the four different trade organizations. Each insurance company is classified in only one category. In case of overlap or change from category (e.g. from mutual into stock company), companies are classified in the category that prevails most of the period.

c Especially in the period 1950-1965 annual reports of a number of multiple-line insurance companies did not specify premium income by line. Hence, their premium income had to be estimated by extrapolation and by deduction from aggregate figures of the annual reports of several associations of health insurers. In addition, market shares are computed by using the following data sources:Annual reports of insurance companies; Jaarboek voor het Assurantie- en Hypotheekwezen 46(1951)-63(1972), Jaarboek/Vademecum voor het Verzekeringswezen 64(1973)-78(1987), Annual statistical reviews of non-life insurance in Vereenigde Verzekerings Pers 26(1968)-45(1987).

For several reasons the SF-foundations could maintain low premiums and liberal conditions. Firstly, by using the relatively cheap agency system of the sickness funds their expenditures on agent commissions were considerably lower than those of other health insurers. In addition, the foundations could often use the administrative facilities of the sickness funds, so their investments in administrative facilities could be kept low and they could benefit from administrative economies of scale. In 1960 total expenditures on administration and commissions of the four largest SF-foundations varied between 12 and 16% of their gross premium income as compared to about

30% for the largest commercial health insurer. Secondly, thanks to their close connections with the sickness funds, the foundations were able to attract a high proportion of people who had to leave sickness funds because of exceeding the earnings limit. Finally, as holds good for all starting health insurance companies, the SF-foundations had the initial advantage of a relatively young portfolio. Moreover, during the 1950s SF-foundations were able to preserve part of this initial advantage because of the continuous inflow of relatively young former sickness fund enrollees. Notwithstanding these competitive advantages, the bankruptcy of the largest SF-foundation ('De Ahoy') in 1960 made clear that even SF-foundations could not entirely abandon risk selection. Within a decade this foundation had acquired about 10 percent of the private health insurance market thanks to excessively low premiums and non-selective underwriting. After the foundation's bankruptcy its portfolio was largely transferred to several commercial health insurers, explaining the sudden increase of their market share in 1960 (see Table 4.3).

Taken together, the rising social expectations, the continuous threat of expansion of social health insurance schemes and the rapidly rising market share of the SF-foundations exerted strong pressure on the traditional commercial health insurers to offer more generous policies and to loosen their underwriting standards.

In the first decade of the postwar period commercial health insurers step-by-step introduced more beneficial policies and adopted less stringent underwriting practices. An increasing number of insurers abandoned the possibility to terminate contracts at (or even before) renewal dates or at the age of 65. Hence, single-period contracts were gradually replaced by 'open' multi-period contracts, which at the end of each period had to be renewed by the insurer. Furthermore, several insurers introduced policies which guaranteed full coverage of newborn children, irrespective of health status.

However, room for improvement in the terms of insurance policies and for relaxing underwriting standards was limited. Statistical data and actuarial know-how were still insufficient to apply sophisticated risk rating. As shown in Table 4.2, health insurers typically used only a few crude risk classes to differentiate premium rates. Although in 1948 the first Dutch actuarial study on premium calculation in health insurance was published, in which a large number of potential risk factors were distinguished, the available data set was asserted to be too small to determine their expected effects on medical expenditures (AVS 1948). The only rating factor which was examined more closely was the level of cash reimbursement chosen by the insured. The study found strong evidence of a positive relationship between claims frequency and the chosen level of cash reimbursement. By offering different levels of cash reimbursement for the same benefit, insurers could encourage insureds to signal their risk in order to reduce the information asymmetry.

Because refined risk-rating was not feasible, commercial health insurers had to maintain rather stringent underwriting practices to deal with adverse selection. The only way commercial health insurers could offer more generous policies and relax underwriting standards, was through co-operation or collusion. Early attempts in the late 1940s to introduce standardized policies and to establish a risk pool for substandard risks largely failed, because none of the major health insurers was willing to participate. Only a code of conduct for underwriting group contracts was endorsed by most non-life insurers in 1950, but with the notable exception of the SF-foundations.

4.6.3 The period 1957-1970: cartelization and expansion

Eventually in 1957, the threatening expansion of the SF-foundations urged 30 commercial health insurers, including all the major ones, to join a cartel. The participating insurers replaced their policies by a newly developed uniform policy, known as the ANPZ-policy. The terms of the ANPZ-policy were far more beneficial than those of the preceding policies. Specifically, the ANPZ-policy was non-terminable by the insurer, did accept all newborn children irrespective of health status and did not utilize a waiting period for claims reimbursement after the contract was concluded. Moreover, the number of conditions excluded from coverage was limited to pre-existing conditions only, and an option was provided to extend coverage to GP services and prescription drugs. Finally, ANPZ-policyholders were entitled to reimbursement of the actual costs of treatment instead to reimbursement of predetermined maximum amounts of money, which was the usual method of indemnification. Cost reimbursement was favored by consumers because it provided protection against underinsurance (see also Chapter 1). Due to continuously rising hospital prices underinsurance could easily occur if the maximum reimbursement levels were not adjusted accordingly. Indeed, this was frequently the case, either because of negligence of insureds or because of unwillingness of insurers, usually with regard to high-risk subscribers.

In addition to the launching of a uniform policy, 35 commercial health insurers established a risk pool for all substandard risks who would loose their eligibility to the social health insurance schemes. The terms of the risk pool contract were largely comparable to those of the ANPZ-policy, except that the premium was substantially higher. The motive behind the establishment of this risk pool was to deprive the government of arguments to expand the social health insurance schemes. Four years later, 1961, a risk pool for other substandard risks was instituted by largely the same group of insurers, although this pool did not guarantee access to all high-risk applicants.

The 1960s can be characterized by an increasing homogeneity of policies and underwriting standards. Nearly all health insurers were able to expand their

business due to the rapid expansion of the health care sector and the concurrently increasing propensity of the population to buy health insurance. The proportion of uninsured individuals dropped from about 7% of total population in 1954 (Kunneman 1955) to about 2.5% in 1968 (Consumentenbond 1968), or, to put it differently, from about 28% to 8% of the potential privately insured population. The share of private health insurance in both non-life insurance and health care finance rapidly increased (see Table 4.4). Measured by premium income, private health insurance became the most important line of non-life insurance.

Table 4.4 **Key-figures on private health insurance, non-life insurance and total health care expenditures in the Netherlands, 1953-1990**

Year	Net premium income private health insurance (in mln. Dfl)[a]	Net premium income non-life insurance (in mln. Dfl)	Share of private health in non-life insurance (in %)	Health care expenditure (in mln. Dfl)	Share of private health insurance in health care expenditure (in %)	Share of health care expenditure in GNP (in %)
1953	25	258	9.7	770	3.2	3.2
1958	92	470	19.6	1,358	6.8	3.8
1963	200	933	21.4	2,232	9.0	4.3
1968	580	1,858	31.2	4,809	12.1	5.3
1970	790	2,522	31.3	7,255[b]	10.9[b]	5.9[b]
1975	1,850	5,052	36.6	16,677	11.2	7.6
1980	3,120	9,132	34.2	26,889	11.6	8.1
1985	4,194	10,961	38.3	33,528	12.5	8.0
1990	6,431[c]	17,238[c]	37.3	40,982	15.7	8.0

a Dfl = Dutch florin (or guilder), in 1990 equivalent to about 0.5 US dollar.
b Major change in definition of health care; according to the previous definition the share of private health insurance in health care expenditure would have been 12.2% and the share of health care expenditure in GNP (also according to a previous definition) would have been 5.6%.
c Exclusive of mandatory transfer payments from private health insurers to sickness funds (MOOZ contributions)
Sources: Annual reports health insurers' associations (FOV and NVOZ), CBS (1957a-1992a), CBS (1972b), Dees et al. (1992), Zeven (1963), KISG, (1992).

Commercial health insurers also managed to expand their business, but their market share continued to decline (see Table 4.3). Although differences in policies and underwriting practices were substantially reduced, the premium rates of commercial health insurers remained substantially higher than those of most SF-foundations and mutual health insurers. Given that the underwriting profits of commercial health insurers were negligible, these premium differences must be attributed to higher commission rates and less favorable portfolios. Indeed, during the 1960s, commercial insurers on several occasions reduced the commission rates of the ANPZ-policy, defending these measures to agents by referring to their declining market share.

Remarkably, commercial insurers did not attempt to regain market share by refining risk rating or by introducing new insurance products targeted at low-risk groups. The accumulation of statistical data and actuarial experience and the advancing information technology made it possible to improve the accuracy of risk rating (De Wit 1969). However, the majority of the cartel of commercial health insurers was unwilling to exploit this opportunity. Particularly the large commercial non-life insurance companies preferred a quiet market to be able to concentrate on more profitable lines of insurance. They were anxious not to induce a process of escalating risk segmentation and premium differentiation, foreseeing that refined risk rating would inevitably lead to analogous reactions of competitors. Moreover, given the unfavorable composition of their portfolios, commercial insurers had the least room to offer premium discounts to low-risk groups without having to raise the premiums for the elderly and other high-risk groups substantially. This would harm their corporate image and their ability to sell other, more profitable insurance products. Another reason for the reluctance to refine risk rating was the permanent threat of expansion of the social health insurance schemes. Insurers realized that such an expansion would be less likely if they would be able to maintain a rather undifferentiated premium structure and permissive underwriting standards. In 1967 all private health insurers successfully joined forces to obstruct a government proposal to socialize a major part of their industry by including hospital care in the benefits package of a newly formed national health insurance scheme for catastrophic risks (AWBZ). Through the joint establishment of a mutual reinsurance institute (NOZ) substandard risks could be offered a broad coverage, comparable to that of the ANPZ-policy but at 30-40% higher rates, without exclusion of pre-existing conditions.
In summary, throughout the 1960s, the general abstinence from risk rating was sustained by the cartel of commercial health insurers and the preference of non-profit health insurers for equitable premiums. However, this market equilibrium was essentially unstable. The negligence of easily observable rating factors made commercial insurers increasingly vulnerable to what can be typified as self-regulation induced adverse selection.

4.6.4 The period 1971-1985: accelerating risk selection and risk rating

The escalating health care cost inflation at the beginning of the seventies (see Table 4.4), exceeding 20% per year, would upset the delicate equilibrium in the self-regulated private health insurance market. The increasing difference between the expected costs of low-risk and high-risk subscribers acted as a time bomb under the undifferentiated rating structure. Insurers with a relatively high proportion of high risks in their portfolio became increasingly less attractive to low-risk individuals. The prevailing undifferentiated premium

structure enabled small health insurers to attract low-risk individuals by substantially lower priced policies, because they did not need large absolute amounts of money to cross subsidize loss-making policies of elderly insureds. High-risk individuals were effectively deterred from switching by age-related entrance surcharges and by pre-existing condition clauses.

At the same time the problem of self-regulation induced adverse selection became apparent, the room for premium differentiation was limited by government price regulation. As part of a general price control policy to curb price inflation, government decided to set a limit to the increase of private health insurance premiums. The restrictions on premium rate inflation were, except for 1973, maintained from 1969 until 1987.

Since the early 1970s, an increasing number of health insurance companies, including the members of the ANPZ-cartel, had introduced policies with high deductibles to encourage self-selection of low-risk individuals. It is remarkable that health insurers still avoided varying premiums by such a straightforward risk factor as age. Probably the most important reason for this was the urgent threat of socialization of the entire private health insurance industry. In 1975 a government proposal to introduce a comprehensive national health insurance scheme made this threat more credible than ever. Because an escalating premium differentiation would clearly reinforce the position of the proponents of the national health insurance scheme, insurers chose the less visible strategy of inducing self-selection by offering high-deductible policies. Another reason for the reluctance to refine risk rating was that the room for premium differentiation was restricted by the government price regulation. The imposed restriction on premium inflation limited the possibility to compensate premium discounts for the young by premium surcharges for the elderly. Therefore, it would have been a dangerous strategy for health insurers with a relatively old portfolio to trigger a process of premium differentiation, because they would not be able to offer young applicants the same discounts as insurers with a relatively young or small portfolio.

Hence, to health insurers with a relatively large number of unfavorable risks in their portfolio, the introduction of high deductibles probably was the most sensible strategy to avoid a deadly premium spiral. However, due to their apparent success, the high-deductible policies were soon copied by most other health insurers. The Consumers Union surveys of health insurance policies point out that the percentage of health insurers that offered a policy with a high deductible (exceeding 500 guilders per individual per year) rose from 3% in 1971 to 84% in 1978. The introduction of policies with high deductibles at best only temporarily alleviated the adverse selection problems for commercial insurers. Relatively small direct writing mutual companies were able to offer these policies at substantially lower premiums. As a consequence, these mutual

companies were able to expand their market share substantially, primarily at the expense of the commercial health insurers (see Table 4.3). In 1980, a group of 23 commercial health insurers, most of which members of the ANPZ-group, introduced a uniform policy with age-related premiums and deductibles, in a seemingly desperate attempt to improve the composition of their portfolio. Premium differentiation was no longer inhibited by fear of socialization, which was substantially reduced since the rejection of the national health insurance proposal in 1975 and the succession of a center-left by a center-right coalition government in 1977. Again, however, the lead of the commercial insurers was short-lived. Within four years, about two-thirds of all health insurers were selling policies with age-adjusted premiums.

4.6.5 Empirical test of the presence of premium spirals

The occurrence of premium spirals during the period 1968-1984 can be tested empirically. Since the available data on premium income and losses are related only to health insurance companies and not to different health insurance policies, the company rather than the policy is taken as the unit of observation. Obviously, for an accurate measurement of the occurrence of any premium spiral, the insurance policy is a more appropriate unit of observation than the insurer. For if an insurer offers a menu of policies, the loss of low-risk subscribers to a policy that is affected by a premium spiral may be offset by the gain of low-risk subscribers to another policy of the insurer's menu. Hence, at the level of the insurer a premium spiral may not be noticeable, though it may be present for one (or some) of his policies. On the other hand, for society it is probably more interesting to know whether an insurer rather than an insurance policy is liable to a fatal premium spiral because the risk of insurer default is likely to generate a higher welfare loss than the demise of a single policy.

Moreover, during the considered period premium spirals are likely to occur simultaneously at the policy and the company level. For, throughout the 1968-1984 period insurers typically offered only a few types of health insurance policies. As appears from data of the Consumers Union surveys the premium rates of these policies are highly correlated, so the premium of a single policy presumably is a good proxy for the relative premiums of the other policies offered by an insurer. The main innovations during this period are the introduction of policies with high deductibles during the 1970s and the introduction of policies with age-related premiums and age-related deductibles during the 1980s. In the empirical model the effect of these innovations on the market share of the different insurers will be estimated.

Empirical model

A premium spiral may emerge if, for whatever reason, an insurer charges a pooled premium for the same benefits package to heterogeneous risks. Relatively low risks may disenroll if entrants offer lower-priced policies. To break-even the insurer will be forced to raise the pooled premium, which in turn induces an exit of the lowest risks from his portfolio. Thus, the insurer may become trapped in a spiral of declining membership and rising premiums.

This process can be modelled as follows. Let $P_{i,t}$ denote the premium P of a common benefits package, charged by the insurer i in year t. If the pooled premium of insurer 1 in the initial year 0 ($P_{1,0}$) is relatively high as compared to premiums charged by other insurers for the same coverage, insurer 1 may experience a disenrollment of low risks and, other things being equal, a declining market share from year 0 to year 1. Thus $MS_{1,1} < MS_{1,0}$, with $MS_{i,t}$ denoting the market share of insurer i in year t, measured as a percentage of the total gross premium of all insurers included in the sample. The exit of low-risks and the corresponding decline in market share may necessitate the insurer to charge a higher premium in year 1 ($P_{1,1} > P_{1,0}$). Again, this may cause a further loss of market share due to disenrollment of relatively low risk subscribers, so that $MS_{1,2} < MS_{1,1}$, which will compel a further premium increase, and so on.

The above described process is explicated by equations 1 and 2 of the following model (see Table 4.5 for a full list of variables and definitions).

$$PCMS_{i,(t+1)-t} = f_1\,(P_{i,t}, MS_{i,t}, DHD_{i,t}, DAGE_{i,t}) \qquad (1)$$
$$\qquad\qquad\qquad\qquad\quad -\quad -\quad +\quad +$$

$$P_{i,t+1} = f_2\,(PCMS_{i,(t+1)-t}, MS_{i,1981}, DFP_{i,t+1}, DDW_{i,t+1}, DSF_{i,t+1}, DRI_{i,1969}) \qquad (2)$$
$$\qquad\qquad\quad -\quad +\quad +\quad -\quad ?\quad -$$

$$PCLR_{i,(t+1)-t} = f_3\,(PCMS_{i,(t+1)-t}, LR_{i,t}) \qquad (3)$$
$$\qquad\qquad\qquad\quad -\quad -$$

for $t \in [0,5]$, corresponding with the following years: 0 = 1968, 1 = 1971, 2 = 1975, 3 = 1978, 4 = 1981 and 5 = 1984. Expected signs are denoted by a plus (+) if positive, a minus (–) if negative or a question mark (?) if ambiguous.

Table 4.5 **List of variables and definitions used in equations (1), (2) and (3)**

Variable	Definition
$P_{i,t}$	Premium (in Dfl) charged by insurer *i* in year *t* to 42-year old men for the most common benefits package, consisting of comprehensive third class hospital care, outpatient specialist treatment (including prescribed drugs), outpatient physiotherapy, medical aids and appliances, and ambulance service.
$MS_{i,t}$	Market share of insurer *i* in year *t* as percentage of the gross premium income of all insurers in the sample in year t
$PCMS_{i,(t+1)-t}$	Proportional change of the market share of insurer *i* from year *t* to year *t* + 1
$LR_{i,t}$	Loss ratio of insurer *i* in year t, which is the insurer's annual total claims payments as percentage of its annual gross premium income
$PCLR_{i,(t+1)-t}$	Proportional change of the loss ratio of insurer *i* from year *t* to year *t* + 1
$DHD_{i,t}$	= 1 if insurer *i* in year t offers a policy with a high deductible (≥ Dfl 500 per individual per year) = 0 if not
$DAGE_{i,t}$	= 1 if insurer *i* in year t offers a policy with an age-related premium = 0 if not
$DFP_{i,t}$	= 1 if insurer *i* has a for-profit status in year *t* = 0 if not
$DDW_{i,t}$	= 1 if insurer *i* is a direct writer in year *t* = 0 if not
$DSF_{i,t}$	= 1 if insurer *i* in year t is allied to one or more sickness funds (SF-foundation) = 0 if not
$DRI_{i,1968}$	= 1 if insurer *i* restricted his activities to a statutory defined region in 1968 = 0 if not
C	Constant term

The model is estimated in five successive time intervals for a sample of the largest 35 (or 32 since 1975) health insurance companies. Because Consumers Union surveys, which provide data on individual insurance policies, were conducted about once every three years, five time intervals could be distinguished. Throughout these periods, the selected group of health insurers accounted for about 90 percent of total gross premium income of the private health insurance industry.

The dependent variable of the first equation, $PCMS_{i,(t+1)-t}$, is the proportional rate of change of the market share of insurer *i* from year *t* to year *t* + 1. The proportional change of market share is determined, other things equal, by the premium charged by insurer at the beginning of the period ($P_{i,t}$). In turn, the premium of the insurer at the end of the period $P_{i,t+1}$ depends, among other things, on the proportional rate of change of the market share of the insurer since the beginning of the period. If premium spirals occur the coefficients of the independent variables $P_{i,t}$ in equation (1) and $PCMS_{i,(t+1)-t}$ in equation 2 should have negative signs.

Ideally, market shares should have been measured by the number of subscribers rather than by gross premium income. The reason for this is that

the effect of increasing premium rates on market share is ambiguous when it is measured by premium income, because declining membership may be compensated by higher revenues per subscriber. Unfortunately, data on the number of subscribers per health insurer are not available. However, if rising premiums are correlated with a declining market share, the decline is likely to be underestimated in terms of membership. Hence, if evidence is found for a spiral of rising premiums and declining market share measured by premium income then the spiral would be even more apparent if market share would have been measured by the number of subscribers.

Proportional changes in market shares were adjusted for take-overs and mergers which took place during the considered time interval, to eliminate their effect on changes in relative market shares (see Appendix B for a specification of the relevant mergers and take-overs). The Consumers Union surveys only provide information about individual and family health insurance policies. Hence, relative market shares should also be adjusted for the share of group contracts to obtain an unbiased picture of the individual health insurance market. However, except for a few large ones, information about group contracts is completely absent. Relative market shares thus necessarily include group contracts, which on average account for about 30 percent of gross premium income. This implies that the *PCMS* variable does not perfectly measure the changing positions of insurers in the individual health insurance market. Especially when large group contracts are transferred from one insurer to another, this may confound empirical findings. However, the available evidence suggests that during the considered periods, the volatility of group contracts was limited. Only at the end of the 1980s the steady state in the group insurance market was disturbed by vigorous price competition.

The premium variable ($P_{i,t}$) denotes the individual premium rate charged by insurer i in year t to a 42-year old man for the most common benefits package, consisting of comprehensive third class hospital care, outpatient specialist treatment (including drugs prescriptions), outpatient physiotherapy, medical aids and appliances, and ambulance service. Nearly all health insurers offer such a policy and although there are some minor differences among these policies, the resulting expected premium variation is small enough to warrant comparison. In some cases premium data were adjusted for minor deviations in benefits packages (see appendix B for a specification of the premium data).

As argued above, insurers could have been able to mitigate the negative effect of spiralling premiums on their market share by the introduction of policies with high deductibles and age-related premiums. Therefore, the proportional change of market share in equation 1 is supposed to depend positively on two dummy variables, indicating whether or not insurers offered policies with high deductibles (DHD = 1 if an insurer offers a policy with a deductible of at least Dfl 500 per individual per year; DHD = 0 if not) and age-related premiums

($DAGE = 1$ if an insurer offers policies with age-related premium rates for adults; $DAGE = 0$ if not). The variable $MS_{i,t}$ is added in equation 1 because it is more difficult for a large insurer to realize the same proportional gain or loss of market share than for a small one. Hence, the sign of the coefficient of the *MS* variable is expected to be negative.

In addition to the gain or loss in market share, the dependent variable of the second equation $P_{i,t+1}$ is also expected to be determined by various insurer characteristics. Following the suggestion by Price and Mays (1985b) that due to ageing portfolios health plans may eventually become victims of their own success in the presence of (self-)imposed restrictions on pricing behavior, the market share in 1961 (MS_{1961}) is taken as proxy for the extent of early success of a health insurance company. If an insurer's early success makes it vulnerable to a fatal premium spiral, MS_{1961} should be positively related to the insurer's premium rate $P_{i,t+1}$. Moreover, the effect of the market share variable is expected to become more pronounced over time. Next to the market share variable, four insurer characteristics which are expected to be correlated with premium are distinguished by dummy variables. The dummy variable *DFP*, indicating whether or not an insurer is for-profit, is expected to be positively correlated with *P* for several reasons. The main reason is that most for-profit insurers were either members of the ANPZ-cartel or attuned their policies and behavior to that of the cartel. In general, a cartel is expected to charge relatively high prices, which makes it (increasingly) unattractive for low-risk groups. Secondly, for-profit insurers usually pay relatively high agent commissions. Finally, the pressure by stockholders to make profit may also result in higher premiums. The dummy variable *DDW* indicates whether an insurer is a direct writer ($DDW = 1$) or an agency company ($DDW = 0$). Direct writers are expected to have lower premiums because direct writing is generally believed to be less expensive than the agency system. Moreover, due to their more aggressive selective marketing techniques, direct writers were probably able to attract relatively low-risk individuals, which would allow them to charge lower premiums. The dummy variable *DSF* indicates whether an insurer is a SF-foundation ($DSF = 1$) or not. If SF-foundations benefit from economies of scale by using the administrative facilities of allied sickness funds, this would have a negative effect on $P_{i,t+1}$. SF-foundations were clearly the most pronounced proponents of undifferentiated premiums and were generally reluctant to follow other insurers in offering policies with high deductibles and age-related premiums. The lack of risk segmentation by SF-foundations implies that a relatively large proportion of their low-risk subscribers pay a pooled premium, suppressing that premium vis-à-vis those of other insurers. On the other hand, the SF-foundations' preference for an undifferentiated premium structure exposes them to a premium spiral, with an opposite effect on $P_{i,t+1}$. From the above reasoning it follows that the

expected sign of the *DSF* coefficient is ambiguous. The dummy variable DRI_{1968} indicates whether or not health insurers were voluntarily restricting their activities to a statutory defined region in 1968. Usually, these insurers were located in regions with relatively low hospital prices and health care utilization. In later years, nearly all of these regional insurers removed the statutory restrictions on their working area. Because the policyholders of originally regional insurers primarily come from relatively cheap regions, the coefficient of DRI_{1968} is expected to be negative but of diminishing significance in later periods.

The model is completed with the third equation, which is added to allow for the possibility that insurers reduce profits (or incur losses) rather than raise premiums in response to an exit of low-risk subscribers. In the presence of a premium spiral, insurers with rising premiums and declining membership may use their profits in order to slow down this process. Perhaps more important, government price controls limited the possibility to compensate premium discounts for low-risk groups by elevating premiums for other subscribers. From 1969 until 1987, with a notable exception of 1973, government imposed restrictions on the annual rate of increase of the premiums of all health insurance policies. The maximum permitted premium increases were determined on the basis of *average* expected health care cost inflation and a clearance of the difference between the actual and expected health care cost inflation in the previous year(s) on which the previous price decision was based. But companies with a disproportionate loss of low-risk subscribers were likely to experience a higher than average cost inflation. Although individual health insurers could appeal for an exemption, government was generally unwilling to assent to such requests. Hence, the imposed restrictions on the growth of premiums should have reduced the profitability of insurers which were exposed to a premium spiral. The potential unwillingness of or impossibility for adversely selected insurers to compensate the loss of low-risk subscribers by adequate adjustments of their premium levels provide the rationale for equation 3. The dependent variable $PCLR_{i,(t+1)-t}$ stands for the proportional change of the loss ratio of insurer i from year t to year $t+1$. Loss ratios are defined as annual total claims payments divided by annual gross premium income. Profit ratios were not used because expense data were unavailable for most of the health insurers. Since profit ratios are usually highly correlated with loss ratios (Cummins and Outreville 1987), the latter are taken as proxy for an insurer's profitability.[13] If an insurer's market share

13 On an aggregate level the loss ratio of health and disability insurance is highly correlated with the profit ratio (defined as net underwriting results as percentage of net premium income), the correlation coefficient (R) being 0.99 over the period 1968-1990 (using data from CBS 1971a-1992a).

declines, his loss ratio is expected to increase as a result of insufficient premium adjustments which are caused by government's price controls and the insurer's fear that adequate premium increases will induce more low-risk subscribers to disenroll. Hence the expected sign of $PCMS_{i,(t+1)-t}$ is negative. The expected sign of the loss ratio of insurer i in year t ($LR_{i,t}$) is negative too, because insurers with high loss ratios are less likely to realize the same proportional increase or reduction of their loss ratio and because those insurers presumably have less latitude for refraining from sufficient premium adjustments.

Estimation results

Since economic theory does not suggest any particular functional relationship for the market share and the other equations, it is assumed that all equations are linear in all variables.[14] The results of testing the model are presented in Tables 4.6, 4.7, and 4.8.

Table 4.6 **Results of OLS estimation of equation 1** (dependent variable: $PCMS_{(t+1)-t}$)

Independent variables		Periods (from year t to year t + 1)				
		1968-1971	1971-1975	1975-1978	1978-1981	1981-1984
P_t	Premium rate (in Dfl)	−0.00145* (−2.53)	−0.00228* (−2.27)	−0.000958** (−4.92)	−0.000560** (−5.82)	−0.000455* (−2.24)
MS_t	Market share (in %)	−0.0216 (−1.93)	−0.0675* (−2.55)	−0.0257** (−2.96)	−0.0163* (−2.37)	−0.0160 (−1.38)
DHD_t	= 1 if high deductible = 0 if not	– [a]	– [a]	0.0417 (0.78)	0.0270 (0.64)	– [a]
$DAGE_t$	= 1 if age-related premium = 0 if not	– [b]	– [b]	– [b]	– [b]	0.0713 (0.76)
C	Constant	0.483** (3.35)	1.17** (3.05)	0.750** (6.12)	0.525** (6.27)	0.543* (2.59)
Number of observations[c] (N)		35	32	29	29	29
R^2		0.28	0.27	0.60	0.61	0.25
Adjusted R^2		0.24	0.22	0.55	0.56	0.16

* (**) denotes significant coefficient at 5% (1%) level by two-tailed test; t-statistic in parentheses.

a Policies with high deductibles were (virtually) absent in 1968 and 1971, while in 1981 nearly all insurers offered such a policy. Hence, *DHD* is only a relevant (discriminating) variable in the third and fourth time interval.

b Rate discrimination by refined age classes was introduced in 1980. Hence, *DAGE* is zero for all insurers except for the last time interval.

c For some years, data on premiums of some insurers in the sample are missing, reducing the number of observations.

14 Besides, the models were also tested in several other forms, using semi-logarithmic specifications or modifications of certain variables (e.g. absolute instead of relative changes in market share and premium rates), but results were quite similar.

Table 4.7 **Results of OLS estimation of equation 2** (dependent variable: P_{t+1})

Independent variables		Periods (from year t to year $t+1$)				
		1968-1971	1971-1975	1975-1978	1978-1981	1981-1984
$PCMS_{(t+1)-t}$	Proportional change of market share from t to t + 1	−243.5** (−3.62)	−9.14 (−0.23)	−324.9* (−2.16)	−627.1* (−2.53)	−486.9 (−1.54)
MS_{1961}	Market share in 1961 (in %)	−4.95 (−1.34)	8.98 (1.91)	2.44 (0.37)	15.18* (2.08)	33.37* (2.78)
DFP_{t+1}	= 1 if for-profit insurer = 0 if not	30.50 (1.32)	181.04** (4.98)	178.39** (3.54)	166.18* (2.72)	224.18* (2.46)
DDW_{t+1}	= 1 if direct writer = 0 if not	18.58 (0.71)	−50.66 (−1.29)	−28.90 (−0.59)	−85.53 (−1.44)	14.22 (0.13)
DSF_{t+1}	= 1 if SF-foundation = 0 if not	2.84 (0.14)	−26.45 (−0.80)	−86.70* (−2.10)	−131.65* (−2.76)	−300.58** (−3.04)
DRI_{1968}	= 1 if regional insurer in 1968 = 0 if not	−87.40** (−4.12)	−37.53 (−1.03)	−96.27* (−2.13)	−38.89 (−0.58)	22.99 (0.24)
C	Constant	383.5** (14.88)	599.2** (15.30)	852.5** (15.71)	1107.3** (20.17)	1208.4** (13.40)
Number of observations (N)		35	29	29	29	31
R^2		0.60	0.81	0.83	0.84	0.69
Adjusted R^2		0.51	0.76	0.78	0.80	0.61

* (**) denotes significant coefficient at 5% (1%) level by two-tailed test; t-statistic in parentheses.

Table 4.6 shows that in each of the five periods the estimated coefficients of the *P* variable have the expected negative sign and are significant at the 1 or 5% percent level. Next, as shown in Table 4.7, a negative change in market share has the opposite effect on the premium at the end of the period, although in the second and the last period the effect is not statistically significant. Together, these observations support the occurrence of a premium spiral. The evidence suggests that a relatively high premium in the beginning of a period leads to a decline in market share, resulting in a relatively high premium level at the end of the period, in turn leading to a shrinking market share during the next period, and so on.

A remarkable exception to this pattern is the period 1971-1975, in which the change of market share does not appear to be related to the 1975 premiums. The insignificant coefficients of the *PCMS* variable in the second period may be explained by the absence of government price control in 1973. For-profit companies in particular increased their premiums by up to 30% to compensate for losses in the preceding years, which is reflected by the highly significant

coefficient of the dummy variable *DFP*.[15] Presumably, these excessive premium increases have largely outweighed the decreasing revenues due to a declining membership, thereby mitigating the decline of market share as measured by the percentage of total premium income (and thus the explanatory power of *PCMS*).

The estimation results of equation 3, which are presented in Table 4.8, also provide evidence of the supposition that government price controls did not impose an effective restraint on premium increases during the period 1971-1975. Contrary to the other time intervals, a decline in market share does not seem to result in lower profitability, indicating that premium increases were sufficient to compensate the loss of low-risk subscribers.

Table 4.8 **Results of OLS estimation of equation 3** (dependent variable: $PCLR_{(t+1)-1}$)

Independent variables		Periods (from year t to year t + 1)				
		1968-1971	1971-1975	1975-1978	1978-1981	1981-1984
$PCMS_{(t+1)-t}$	Proportional change of market share from t to t + 1	−0.102 (−1.24)	0.0835* (2.35)	−0.849 (−1.12)	−0.285** (−3.27)	−0.243** (−4.97)
LR_t	Loss ratio (in %)	−0.00141 (−0.77)	−0.00263 (−1.66)	−0.00356* (−2.75)	−0.00527** (−4.05)	−0.0355** (−3.43)
C	Constant	0.158 (1.11)	0.209 (1.59)	0.358** (3.43)	0.468** (4.16)	0.310** (3.45)
Number of observations (N)		35	32	32	32	32
R^2		0.08	0.28	0.32	0.52	0.51
Adjusted R^2		0.03	0.23	0.27	0.49	0.48

* (**) denotes significant coefficient at 5% (1%) level by two-tailed test; t-statistic in parentheses.

Furthermore, the results in Table 4.8 indicate that especially since 1978 loss ratios of insurers with declining market shares were increasing relative to the other insurers. As argued above, such an increase in loss ratios may result from insufficient premium adjustments which are caused by government's price controls or from the fear of the adversely selected insurer that adequate premium increases will induce more low-risk subscribers to disenroll. As appears from the financial underpinning of the annual health insurance price

15 The estimated health insurance underwriting cycle (see Table 4.9) provides additional evidence of the exceptional premium rate inflation in 1973, since the average loss ratio in that year is the only outlier (i.e. the actual value being substantially lower than the fitted value).

decisions provided by the government, the maximum permitted premium rate increases were not sufficient to meet the general health care cost inflation since 1977, except for the years 1979-1981. Particularly during the latter period, adversely selected health insurers have apparently tried to counteract the premium spiral by the introduction of age-related premiums at the expense of their profitability (see below).

The coefficients of *DHD* and *DAGE* in equation 1 have the anticipated positive sign but are not statistically significant. Hence, the positive effects on market share of the introduction of policies with high deductibles and age-related premiums are minimal. This may not be surprising given the quick imitation of these policies by other health insurers.

The estimated coefficient of the proxy variable MS_{1961} in equation 2 is positive except for the first period, and becomes increasingly significant over time, which is consistent with the hypothesis that an early success exposes an insurer to adverse selection in a (self-)regulated environment. The expectation that for-profit status is associated with higher premiums is also corroborated by the empirical results, since all coefficients of *DFP* are positive and, except for the first period, significant at the 1 or 5% level. The coefficients of *DDW* are not statistically significant in any of the five time intervals, indicating that direct writers may have only a limited price advantage as compared to other health insurers. The coefficients of *DSF* are negative and increasingly significant over time. Since the coefficients are not statistically significant in all periods it is unlikely that SF-foundations substantially benefit from economies of scale by using administrative facilities of allied sickness funds. Rather, the negative coefficients of *DSF* in the last three periods can be explained by the reluctance of SF-foundations to follow other insurers in offering policies with high deductibles and age-related premiums. Only two out of the ten SF-foundations in the sample offered a policy with a high deductible in 1975 (as compared to 78% of the insurers in the rest of the sample), and only one offered a policy with an age-related premium in 1981 (as compared to 68% of the insurers in rest of the sample). The resulting lack of risk segmentation may be responsible for the relatively low premiums since cross subsidies from low-risk to high-risk subscribers may be relatively large. Finally, as expected, the coefficients of DRI_{1968} in equation 2 are negative and of diminishing significance over time.

In addition, empirical evidence suggests that health insurers which were most exposed to a fatal premium spiral, were also most eager to engage in cream skimming and premium differentiation. For, health insurers which were the first to introduce policies with high deductibles and age-related premiums appeared to have relatively expensive common insurance policies. Specifically, health

insurers with high-deductible policies in 1975 and those with age-rated policies in 1981 charged significantly ($p < 0.01$) higher premiums for common policies than the other health insurers in both samples (the difference in average premiums was 22 percent in 1975 and even 39 percent in 1981).
In summary, the empirical results provide strong evidence of the existence of a premium spiral. The premium spiral was caused by adverse selection induced by self-regulation as well as government regulation. Besides, evidence is found for what can be characterized as a first-mover disadvantage: early dominating health insurers are more likely to get caught in a premium spiral because of an ageing portfolio. As a consequence, the health insurance industry is marked by successive 'generations' of rising and declining or stagnating health insurance companies. The first generation primarily consisted of commercial health insurers, the next generation of foundations constituted by sickness funds, and the third generation of direct writing mutual companies.

Health insurance underwriting cycle
As apparent from the cross-section analyses in five consecutive time intervals, the underwriting and pricing behavior of insurers varies with the type of insurer. The pricing behavior of insurers can also be measured by the variation in the rate of change of loss ratios over time. Cummins and Outreville (1987) found that pricing behavior in the property-liability insurance industry in many countries is characterized by an underwriting cycle of about six years. The underwriting cycle refers to a cyclical pattern of rising and declining underwriting profits (defined as profitability exclusive investment income). Gabel et al. (1991) observe an underwriting cycle of a similar length in the US group health insurance market. In the Dutch private health insurance industry the underwriting cycle is also manifest. By estimating a second-order autoregressive model[16] for health insurance loss ratios over the period 1967-1985, evidence is found for the existence of a health insurance underwriting cycle of about 6.5 years, as is shown in Table 4.9.
When the observed loss ratios are disaggregated by type of health insurers, different underwriting cycles appear, which are portrayed in Figure 4.1. Taken together, mutual companies and hospital insurance funds follow an underwriting cycle of about 5.3 years, SF-foundations follow a cycle of 7.1 years, while commercial health insurers did not appear to experience a cycle at all.

16 The rationale for the autoregressive model is provided by Venezian (1985) and Cummins and Outreville (1987).

Table 4.9 **Results of OLS regression for the average health insurance loss ratios in year t (LR_t), for t from 1969 to 1985**

Independent variables		Estimated coefficients for different categories of health insurers[a]			
		Total sample (n = 35)[b]	Commercial insurers (n = 11)	Mutual insurers and Hospital insurance funds (n = 14)[b]	SF-foundations (n = 10)
LR_{t-1}	Loss ratio in year t – 1 (in %)	0.727** (2.76)	0.332 (1.13)	0.529** (2.18)	0.904** (3.77)
LR_{t-2}	Loss ratio in year t – 2 (in %)	– 0.404 (– 1.50)	0.071 (0.25)	– 0.508* (– 2.06)	– 0.508* (– 2.10)
T	Time trend[c]	0.474* (2.24)	0.539* (1.79)	0.530** (2.47)	0.339* (1.90)
C	Constant	51.43** (2.67)	42.25* (1.86)	76.33** (3.56)	48.76** (2.82)
R^2		0.72	0.72	0.59	0.71
Adjusted R^2		0.66	0.66	0.49	0.64
Cycle period (years)[d]		6.53	no cycle	5.28	7.11

a Values of t-statistics appear in parentheses below coefficients, marked by * or ** if significant at the 10% or 5% level (two-tailed test). According to Durbin's h (or h-alternative) test for autocorrelation, the null hypothesis of serial independence cannot be rejected for each of the estimated equations.

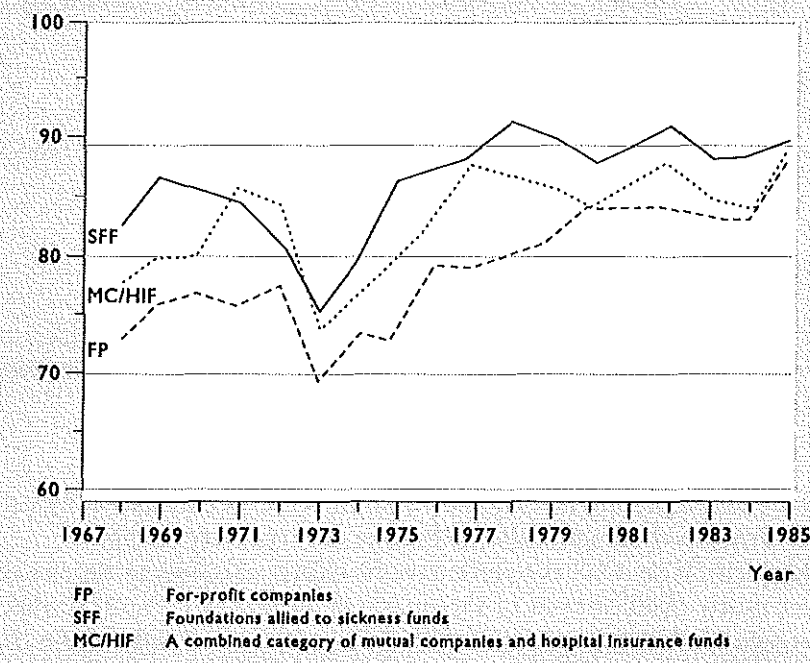
b The sample consists of the 35 largest health insurers. In 1975 four mutual companies merged into one, so the sample size reduced to 32 insurers.

c The time trend variable T is added to account for the downward trend in expenses (presumably causing an upward trend in loss ratios).

d When coefficients of LR_{t-1} and LR_{t-2} are denoted by α and β, Venezian (1985) points out that loss ratios follow a cyclical pattern if $\alpha > 0$, $\beta < 0$, and $\alpha^2 + 4\beta < 0$. The period of the cycle is equal to $2\pi/\cos^{-1}(\alpha/2\sqrt{-\beta})$.

In the context of the US health insurance market, Gabel et al. (1991) also found evidence of variations in the length and existence of underwriting cycles among different health insurers. They conjecture that firms that follow the cycle are those that price their policies more aggressively during the 'soft market', which is the period of the underwriting cycle characterized by increasing price competition and rising losses. This supposition is consistent with the observation in the Dutch health insurance market that non-profit direct writers were the most eager and commercial insurers the most reluctant to engage in price competition, especially during the 'soft market' period 1976-1979.

Figure 4.1 Loss ratio (claim-to-premium ratio) for three categories of health insurance companies



FP For-profit companies
SFF Foundations allied to sickness funds
MC/HIF A combined category of mutual companies and hospital insurance funds

Source: Appendix B

4.6.6 Fatal premium spiral in the voluntary sickness fund scheme

The most obvious example of a deadly premium spiral caused by regulation induced adverse selection is offered by the demise of the voluntary social health insurance scheme for the lower income non-wage earners. Sickness funds, which were responsible for the provision of voluntary social health insurance, were obliged to accept all eligible applicants at community rated premiums. Deficits of sickness funds were pooled and largely compensated by government contributions. As pointed out in section 6.2, thanks to government subsidies and relatively low levels of provider reimbursement, the voluntary scheme initially was even attractive to low-risk individuals despite mandatory open enrollment and community rating. Since the mid-1970,

Table 4.10 **Percentage of over-65 year old persons in the voluntary sickness fund scheme, in private health insurance and in the total population, 1974-1985**

Year	Percentage of over-65 year old persons in:		
	Voluntary sickness fund scheme	Private health insurance[a]	Total population
1974	10.5	7.7	10.7
1976	10.5	8.0	11.0
1978	11.9	8.3	11.3
1980	14.4	8.6	11.6
1981	15.5	8.8	11.8
1982	16.5	8.9	11.9
1983	17.6	9.0	12.0
1984	18.7	9.3	12.2
1985	20.0	9.6	12.3

a Since nearly 100% of the population has health insurance coverage, the percentage of elderly in private health insurance can be calculated as a residual.
Sources: Sickness Fund Council, Annual reports 1974-1985; KISG, Yearbooks 1980-1985.

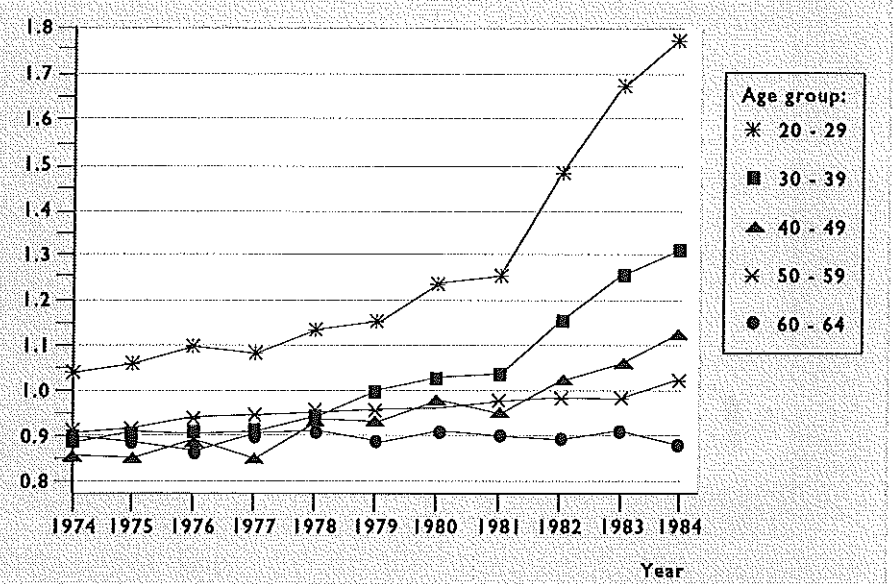
however, the increasing risk selection and premium differentiation by private health insurers would gradually undermine the voluntary scheme.

As shown in Table 4.10, the percentage of elderly enrollees in the voluntary scheme nearly doubled from 10.5 to 20.0% in the period 1974-1985, while the percentage of elderly in private health insurance only increased from 7.7 to 9.6%. The rapidly rising proportion of elderly in the voluntary scheme can be largely explained by the exit of young and healthy members to the private health insurance market.[17] The increase in the proportion of elderly is especially pronounced after private insurers introduced policies with age-related premiums in the beginning of the 1980s. During the 1980-1985 period the percentage of enrollees between 20 and 29 years of age in the voluntary scheme, dropped from 12.3 to 8.5% (equivalent to a reduction of about 65,000 enrollees).

As illustrated by Table 4.11 and Figures 4.2 and 4.3, among the young subscribers primarily the low risks decided to disenroll from the voluntary scheme. The number of hospital days per enrollee of the voluntary scheme steadily increased relative to that of both the compulsory health insurance scheme and private health insurance. This self-selection effect is most pronounced for the 20-29 age group and diminishes with age. Moreover, the self-selection effect is particularly strong after the introduction of age-related

17 Besides, the increasing proportion of elderly in the voluntary scheme was partly due to the steadily rising pensions, which reduced the number of eligible persons for the heavily subsidized health insurance scheme for indigent elderly.

Figure 4.2 Ratios between the annual number of hospital days per capita in the voluntary and in the compulsory sickness fund scheme, for different age groups, 1974 - 1984



Source: Table 4.11

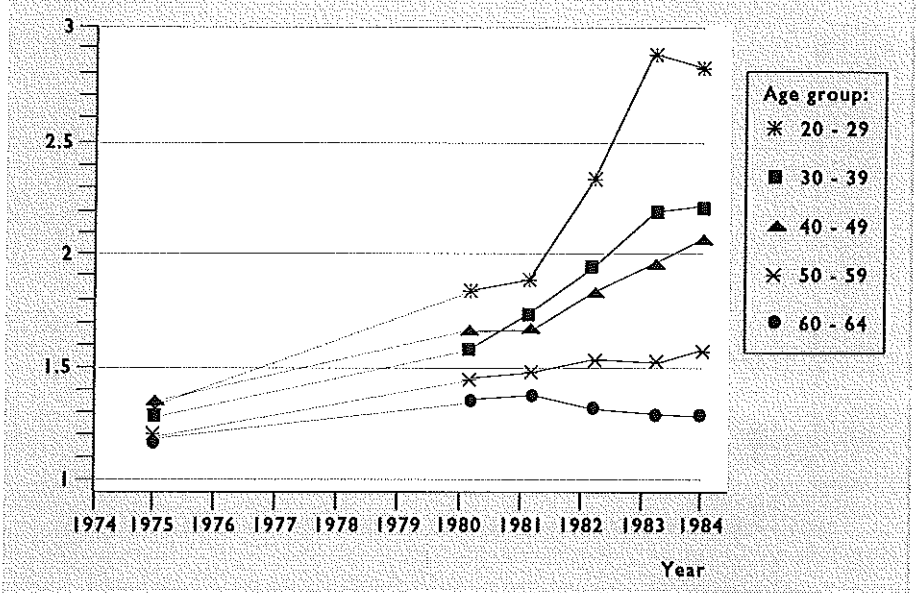
premiums in 1980. Obviously, the voluntary sickness fund scheme experienced an exodus of young and healthy enrollees, resulting in an inevitable premium spiral.

For a 22-year old single person the maximum premium difference between the voluntary scheme and a comparable private health insurance policy increased from about 50% in 1971 to about 400% in 1984 (with a 1,000 guilders deductible in 1984).[18]

Faced with a vicious circle of disenrollment of relatively good risks and escalating premiums, the voluntary sickness funds increasingly appealed to the government for financial relief to curb the premium spiral. The government contribution to the voluntary sickness funds increased from 4.7% of their total

18 The premium difference was often substantially less for families because the voluntary scheme did not charge any premium for children.

Figure 4.3 Ratios between the annual number of hospital days per capita in the voluntary sickness scheme and in private health insurance, for different age groups, 1974 - 1984



Source: Table 4.11

receipts in 1974 to a maximum of 11.2% in 1983 (Sickness Fund Council, Annual report 1984). In fact, the voluntary scheme more and more became a government subsidized risk pool.

The government, unhappy with the shift of financial risk to its own budget, eventually decided to abolish the voluntary sickness fund scheme. Private insurers vainly tried to prevent government intervention by substantial grants to the voluntary scheme in 1984 and 1985, totalling Dfl 340 million. In 1986 the voluntary sickness funds scheme was terminated by the Health Insurance Access Act (WTZ). Most of the members of the voluntary scheme were transferred to the private health insurance market. The vast majority (about 90%) of the former voluntary sickness fund members switched over to an allied SF-foundation (KISG 1988), which explains the sudden gain in total market share of the SF-foundations in 1986 (see Table 4.3). Private insurers were obliged to offer them a broad standardized benefits package for a legally determined premium. Furthermore, private insurers had to offer all future

Table 4.11 **Annual number of hospital days per capita, by age group and health insurance scheme[a], 1975-1984**

Year	Number of hospital days per capita														
	age group: 20-29			age group: 30-39			age group: 40-49			age group: 50-59			age group: 60-64		
	CSF	VSF	PHI[b]	CSF	VSF	PHI[b]	CSF	VSF	PHI	CSF	VSF	PHI	CSF	VSF	PHI
1975	1.346	1.425	1.080	1.565	1.430	1.120	1.997	1.702	1.263	2.535	2.316	1.953	3.293	2.900	2.440
1978	1.317	1.494	n.a.	1.439	1.378	n.a.	1.865	1.758	n.a.	2.411	2.296	n.a.	3.230	2.969	n.a.
1980	1.260	1.554	0.851	1.382	1.432	0.910	1.733	1.698	1.021	2.335	2.240	1.556	3.035	2.783	2.080
1982	1.155	1.711	0.731	1.307	1.512	0.780	1.655	1.703	0.922	2.231	2.218	1.445	2.965	2.667	2.017
1984	1.009	1.803	0.637	1.174	1.554	0.697	1.466	1.676	0.797	2.011	2.079	1.298	2.784	2.486	1.875

a CSF = Compulsory sickness fund scheme
VSF = Voluntary sickness fund scheme
PHI = Private health insurance

b Data on private health insurance are readily available since 1980. The number of hospital days per capita for private health insurance in 1975 were estimated, using additional information from KISG on the number of insureds per age group. Because the original 1975 data did not include hospital admissions for childbirth, the number of hospital days for the first two age groups were adjusted, using data from later years.

Sources: LISZ, Yearbooks 1975-1984; KISG, Yearbooks 1975-1984.

applicants who have to leave the compulsory sickness fund scheme a similar benefits package for a somewhat higher premium. Because the legally prescribed premiums of the standard policies were far below the actuarially fair level, deficits were pooled and were paid for by a levy on the rest of the privately insured population. In this way, all privately insured persons were forced to cross-subsidize relatively high-risk former sickness fund enrollees who opted for the 'standard policy'. Although the Health Insurance Access Act provided for affordable health insurance coverage for the former voluntary sickness fund enrollees, it offered no solution for future low-income high-risk self-employed persons.

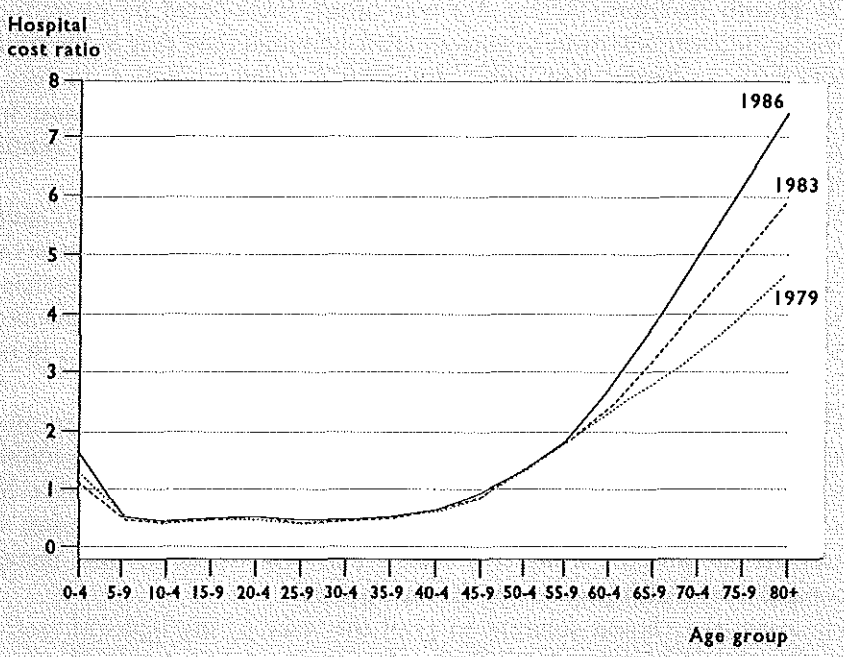
4.6.7 The period since 1986: expanding socialization of private health insurance

During the 1980s financial access to health care for the privately insured elderly became increasingly endangered by the escalating risk segmentation and premium differentiation. The government tried to deal with this problem by bringing in a bill to mitigate premium differentiation. This bill, known as the Internal Equalization of Private Health Insurance Expenses Act (ILPZ), would require health insurers with relatively 'healthy portfolios' to subsidize insurers with relatively 'unhealthy portfolios' (for a detailed description, see De Wit and Van Eeghen 1984). Although this bill was enacted in 1986, its effectuation proved to be too complex and two years later the act was formally suspended.

Paradoxically, the problem of financial access for the elderly was even exacerbated by the government's decision to remove its control on premium rate inflation. This decision was motivated by the fact that price regulation in general was no longer required because of the low overall price inflation in the economy. However, in private health insurance the removal of the government price control paved the way for escalating premium differentiation. The prevailing premium rates for the elderly were generally insufficient to cover their costs. Hence, when the restraint on premium inflation was removed, premiums for the elderly were considerably raised to counterbalance these losses and to make room for premium discounts for young and healthy individuals. Young and healthy families and individuals were attracted by a rapidly expanding amount of new insurance policies, resulting in an enormous product differentiation.[19] The elderly and unhealthy subscribers had no other choice than to renew their once concluded multiperiod contract.

19 In response to the enormous product differentiation in 1986 the Consumers Union established a computerized databank including virtually all individual health insurance policies in order to provide advice to individual members about the most favorable options available to them.

Figure 4.4 Average hospital costs of privately insured men in different age groups relative to the hospital costs of those in the 45-49 age group*, in 1979, 1983 and 1986 (for regular third class hospital insurance)**



* The average hospital costs of the 45-49 age group and those of all age groups are nearly the same

** The 1986 hospital cost data do not include members of the former voluntary sickness fund scheme

Source: KISG, Yearbook 1980, 1983, 1986; KISG (1988)

Moreover, the fact that old age becomes an increasingly important rating factor over time provided additional incentives for raising premiums for the elderly and thus created an additional problem for maintaining universal access.

As illustrated in Figure 4.4, until the age of 60, the relative impact of age on hospital costs appears to be rather stable over time (except for the increasing cost at birth due to advancements in neonatology). However, after the age of 60, the impact of age on hospital costs increases over time, progressively with age. From 1979 to 1986, the average hospital costs of privately insured men over 80 years old increased from 4.9 to 7.6 times the average hospital cost of privately insured men in the 45-49 years age group. Hence, the premium gap between young and old subscribers is likely to widen not only in absolute but also in relative size.

To ensure universal access, the Health Insurance Access Act was amended by parliament in 1989, in order to extend the eligible population for cross-subsidized standard policies to all people over the age of 65. In 1991 the scope of the Health Insurance Access Act was further broadened by permitting all private insureds who were paying a higher premium than that of the standard policy, to exchange their policy for such a standard policy. In fact, this measure implied the introduction of maximum premium for private health insurance. In addition, in 1992 the majority of students were also entitled to buy a standard policy at very low rates.

As a result of the broadening of the eligibility criteria for the legal standard policy, in 1992 about 40% of total private health insurance claims were caused by standard policy holders. Since all deficits on these standard policies are pooled and levied on all private insureds, private health insurers have become purely administrative bodies for a substantial part of their business in only a few years.

The rapid socialization of private health insurance was necessary to preserve universal access, which was seriously jeopardized by the indispensable attempts of private insurers to deal with adverse selection[20]. Private health insurers were trapped by two conflicting constraints: an increasing social pressure to abstain from risk rating and risk selection and increasing competitive market pressure to do the opposite.

However, the chosen solution to pool the risks of the high-risk and low-income privately insured population has an important drawback. Since all deficits on the legal standard policies are pooled, insurers no longer have any incentive to control moral hazard. Because of the alleged inflationary effect, the risk pool for private insureds is considered as a temporary solution. Since 1989, a fundamental restructuring of the Dutch health care financing system is taking place, aimed at the establishment of a compulsory national health insurance system that has to be carried out by competing health insurers (see Chapter 2). The main reason for reforming the health insurance system is to create the necessary conditions and incentives for workable competition, directed at improving efficiency and at controlling the cost of medical care. Health insurers will receive for each subscriber a risk-adjusted payment from a Central Fund, which will be filled by income-related premiums that have to be paid by the whole population. The risk-adjusted per capita payment is

20 One private health insurer persistently refused to offer policies with high deductibles and age-related premiums. Eventually, this tenacious adherence to 'social' policies caused the disenrollment of nearly all young subscribers. As a result, in 1986 the average age of the remaining 7,346 subscribers was 64.3 years (VGA, Annual report over 1986). In 1989, nearly all insureds were transferred to the legal standard policy and the company ensuingly decided to stop writing health insurance.

supposed to cover most but not all expected costs per subscriber. To cover the residual costs, insurers will be permitted to charge a flat rate premium. If insurers are successful in controlling moral hazard, they will be able to gain market share by charging lower flat rate premiums or by investing in improvements in (medical) services. The risk-adjusted payment system can be regarded as an attempt to simulate the premium structure of a competitive health insurance market but without its adverse distributional and welfare consequences. The success of the reform, however, crucially depends on the ability to simulate a competitive premium structure precise enough to prevent cream skimming (Van de Ven and Van Vliet 1992).

4.7 Conclusion

The preceding analysis has shown that the nature of the adverse selection problem in the Dutch private health insurance market has been changing throughout the century.

During the prewar period (1910-1940) one could speak of a 'true' and presumably even of an 'essential' adverse selection problem, caused by a substantial informational asymmetry between insurers and insureds. In conformity with the theoretical model of a competitive insurance market with asymmetric information (Rothschild and Stiglitz 1976), the prewar health insurance market is characterized by a continuous entry and exit of health insurance companies. The high failure rate of comprehensive plans indicates that 'true' adverse selection may be a *historical* rather than a *theoretical* curiosum, as conjectured by Pauly (1984). Health insurers were forced to accept heterogenous risks at pooled premium rates because analysis of different risks was too difficult and prohibitively expensive. Since risk-rating was technically unfeasible, health insurers developed a number of alternative strategies to cope with the adverse selection problem. As a result of these strategies, specific risk groups could obtain only partial or sometimes even no insurance coverage, which implied a welfare loss to society (although the welfare loss of less than full risk protection is to some extent offset by the presence of moral hazard). After the second world war, these strategies became more and more socially controversial. Due to the rapidly rising cost of medical care, denial of health insurance coverage could inhibit financial access to health services even for the relatively affluent privately insured population. In addition to this increasing social pressure, the successful growth of non-profit health insurers, employing far more lenient underwriting practices, also urged the commercial health insurers to relax their underwriting standards. However, permissive underwriting practices and generous

policies could only be sustained if adverse selection would be effectively reduced. The only straightforward method to mitigate adverse selection was to reduce competition by cartelization. Therefore, most commercial health insurers decided to co-operate and to issue a uniform health insurance policy. The escalating health care costs at the beginning of the seventies heralded the end of the quiet market. The preceding decade of self-regulation had effectuated a wide disparity between premium rates and expected health care costs of individual subscribers. Large health insurers with a relatively large share of high-risk subscribers found themselves increasingly exposed to a fatal premium spiral. The empirical analysis provides strong evidence of the existence of a premium spiral, as a result from adverse selection induced by self-regulation and government regulation. Besides, evidence is found of the existence of a first-mover disadvantage: in absence of refined risk-rating, early dominating health insurers are more likely to get caught in a premium spiral because the composition of their portfolio becomes less favorable over time. To escape the threatening premium spiral, health insurers had no other choice than to improve risk selection and to refine risk rating. Once initiated, the process of premium differentiation and market segmentation rapidly escalated, eventually provoking government intervention to keep private insurance affordable for high-risk groups. From 1989 to 1991 nearly all privately insured elderly people and other high-risk groups were brought under a quasi social health insurance scheme, heavily subsidized by the privately insured population.

The experience of the Dutch private health insurance industry demonstrates that in an unregulated competitive environment it is increasingly difficult to bridge the widening gap between opposite demands on insurer behavior by society and by market forces. On the one hand, given the high costs of medical care, refined risk rating is unacceptable to society because it jeopardizes universal financial access to health services. On the other hand, the high costs of medical care force competing insurers to refine risk rating. Moreover, the advancing information technology and augmenting actuarial knowledge increase the opportunities and reduce the costs of risk classification. Thus, the private health insurance industry is trapped between increasingly conflicting principles of social fairness and actuarial fairness.

Perhaps the most promising way out of this deadlock is the introduction of a system of premium-replacing risk-adjusted capitation payments to insurers, as envisioned in the present Dutch health care reforms. An already existing, yet imperfect, prototype of such a system in the US is the Adjusted Average Per Capita Cost (AAPCC) payment system that is employed to compensate HMOs for providing health care benefits to Medicare beneficiaries. If capitation payments to insurers can be sufficiently tailored to the risk of their

subscribers, a competitive health insurance market can be maintained without the adverse consequences of (dealing with) adverse selection.

Appendix A Reviewed insurance trade journals and insurance bibliographies

Insurance trade journals

The following insurance trade journals were reviewed for relevant information on structure, conduct and performance of the private health insurance industry from 1910 to 1992. Journals that are particularly informative about health insurance are marked with an asterix (*).

No.	Journal	Publication period	Continued by	Reviewed period
01	Algemeen Assurantieblad Zonneschijn*	1891-1943	VVP	1907-1943
02	Het Verzekeringsblad*	1911-		1911-1954
03	Het Verzekerings-Archief	1920-		1950-1992
04	De Polis	1921-1943	VVP	1921-1943
05	Het Vakblad voor het Assurantiewezen	1924-1943	VVP	1924-1943
06	De Vraagbaak*	1930-		1948-1970
07	De Revue der Verzekeringswereld	1930-1950	Het Verzekeringsblad	1930-1936
08	De Beursbengel	1938-		1975-1992
09	VVP (Vereenigde Verzekerings Pers)*	1943-		1943-1992
10	De Reflector	1951-		1957-1970

Insurance bibliographies

In addition to a review of the major insurance trade journals an extensive literature search was performed to trace the relevant publications on health insurance throughout this century.

Below, a list of insurance bibliographies is specified which are used in this study. Most of the relevant publications on the Dutch health insurance industry during the period 1910-1950 were summarized in periodically published insurance bibliographies by Van Haaften et al. and Hijmans. Furthermore, Gales and Van Gerwen provide a useful review of historical sources on life and non-life insurance in the Netherlands.

Bibliographies (in chronological order):

Van Haaften M. and W.G.H. van der Zweep, 1922, Verzekerings-Bibliografie 1910-1920 (Ten Have, Amsterdam).

Van Haaften M. and A. van Dieren, 1929, Verzekerings-Bibliografie 1920-1925, De Levensverzekering 6, special edition.

Van Haaften M. and A. van Dieren, 1931, Verzekerings-Bibliografie 1925-1930 (Ten Have, Amsterdam).

Hijmans, H., 1937, Verzekerings-Bibliografie 1930-1935 (Roelants, Schiedam).

Hijmans, H., 1941, Verzekerings-Bibliografie 1935-1940 (Roelants, Schiedam).
Hijmans, H., 1947, Verzekerings-Bibliografie 1940-1945 (Roelants, Schiedam).
Hijmans, H., 1951, Verzekerings-Bibliografie 1945-1950 (Roelants, Schiedam).
Gales, B.P.A. and J.L.J.M. van Gerwen, 1988, Sporen van leven en schade: een geschiedenis en bronnenoverzicht van het Nederlandse verzekeringswezen (NEHA, Amsterdam).

Appendix B Key statistics on health insurance companies included in cross-section analyses

This appendix provides a specification of relative market shares, mergers and take-overs, premium rates, loss ratios, and other insurer characteristics that are used in the cross section analyses. As pointed out in the main text, data on health and disability insurance are usually consolidated in annual reports, which implies that relative market shares and loss ratios of multiple-line insurers had to be estimated or inferred from alternative data sources.

Table B.1 **Relative market shares of health insurers included in data set, 1961-1984**

No.	Health insurance company[a]	Relative market share (in percents)[b] in year:						
		1961	1968	1971	1975	1978	1981	1984
01	DEL	0.48	0.48	0.64[c]	0.68	0.75	0.76	0.64
02	Delta Lloyd (Ned. Lloyd)	4.60	5.00[c]	4.09	5.29	5.06	4.36[c]	4.07
03	Ennia (NEN)	3.17	2.83[c]	2.78	2.35	2.23	2.00[c]	1.76
04	Enzico	1.67	1.99[c]	1.72	2.39	2.43	2.22	2.19
05	Europeesche	0.79	0.56	0.54	0.57	0.52	0.51	0.43
06	FBTO	0.14	0.16	0.23	0.57	0.73	0.92	1.15
07	Fedoz	0.04	0.52[c]	0.49	0.59	0.83	0.94	1.73[c]
08	Goudse	5.94	4.71	4.07	3.31	2.81	2.66	2.25
09	GOV (OZV Aalten)	0.20	0.19[c]	0.23	0.61[c]	0.63	0.68	1.05
10	Holland	1.74	2.67[c]	2.16	1.75	1.51	1.21	0.99
11	Interpolis (Interpolis NCB)	2.77	2.78	2.68	5.94[c]	5.07	4.38	4.30
12	Interpolis ABTB	0.95	0.70	0.67	–	–	–	–
13	Interpolis LTB	0.79	0.70	0.67	–	–	–	–
14	Interpolis LVM	1.66	2.45	2.36	–	–	–	–
15	Levob (Ons Belang)	1.37	1.51[c]	1.47	1.43	1.42	1.35	1.31
16	Nationale Nederlanden	6.97	5.99	5.30	5.03	4.78	3.98	3.80
17	Nezifo	13.61	9.24	6.79	6.62	4.89	5.45[c]	5.44
18	Noord-Holland-Noord	1.19	1.10	1.25	1.69	1.65	1.83	1.95
19	Nieuw Rotterdam	2.85	2.66[c]	2.74	2.42	3.09[c]	2.88	2.98
20	Nuts	4.05	4.94	5.43	5.31[c]	5.80	6.49	5.98
21	NVS	3.13	3.70	3.57	3.82	3.78	3.81	3.83
22	OHRA	1.86	2.58	3.57	5.18	6.72	7.47[c]	9.74[c]
23	OLM (Ziekte Onderlinge)	0.04	0.64[c]	0.65	0.57	0.68	0.83	1.01
24	ONVZ	1.97	1.77	1.62	1.43	1.16	1.05	1.02
25	Oost-Nederland	1.75	1.67	1.58	1.24	1.38	1.33	1.10
26	Vezeno	3.38	2.95	2.70	2.69	2.52	2.35	2.11
27	VGA (Gem. Ass. Fonds)	1.98	1.63	1.49	1.08	0.87	0.70	0.55
28	VGCN	5.85	8.04[c]	11.15[c]	11.96	10.70	10.13	8.92
29	VGNN	3.41	4.40[c]	5.09	4.76	4.74	4.92	4.50
30	VGZ	9.97	9.67	8.91	6.64	8.62[c]	8.26	7.51
31	VZS	0.99	1.41	1.86	2.47[c]	2.62	2.77	2.75
32	VZVZ	4.90	4.23	3.91	4.16	4.04	4.09	4.27[c]
33	ZHV (Zuid en Noord)	0.63	0.56	0.76	0.96	1.43	1.75	2.14
34	Zilveren Kruis	3.95	4.68[c]	5.82	4.86[c]	4.84[c]	5.70	5.98
35	Zwolsche Algemeene	1.19	0.88	1.06	1.62	1.69	2.20	2.56
Total		100	100	100	100	100	100	100

Table B.2 **Take-overs or mergers by health insurers in data set, 1969-1984**

No.	Health insurer involved in take-over or merger	Year of take-over or merger	Insurer of which the (health insurance) portfolio is taken over or included in a merger	Market share[a] (in %)
01	DEL	1969	Eigen hulp	0.06
		1969	VZV Veenendaal	0.06
02	Delta Lloyd	1979	VZV Rotterdam	n.a.
03	Ennia	1981	Boerhaave/Medische Hulp	0.04
07	Fedoz	1982	ODVVZ	0.64
09	GOV	1974	DEL Voorst	0.14
		1974	OZV Ruurlo	0.14
11	Interpolis NCB	1975	Interpolis ABTB	0.53
		1975	Interpolis LTB	0.71
		1975	Interpolis LVM	2.20
17	Nezifo	1979	GAM	0.34
		1980	AGO	0.41
19	Nieuw Rotterdam	1978	OZV Philips	0.97
20	Nuts	1973	AAZ	0.71
22	OHRA	1979	ZGP	0.10
		1982	ZVF PTT	0.76
28	VGCN	1970	Utrechts ZVF	0.90
		1971	VZV Apeldoorn	0.32
		1971	AZVL	0.98
30	VGZ	1978	IZZ	1.99
31	VZS	1975	ZVF 's-Gravenhage	0.12
32	VZVZ	1984	ENMZ/Holland Varia	0.05
34	Zilveren Kruis	1975	ZVF Noordwijk	0.07
		1977	VZV Sliedrecht	0.23

a Market share is defined as percentage of total gross premium income of all health insurers in the data set in the year the take-over or merger took place.

Sources: Nederlandse Staatscourant (1968-1984), Annual Reports of the Verzekeringskamer (1969-1984), Annual reports of the Ziekenfondsraad (1969-1985), Annual reports of (health) insurance companies.

Notes to Table B.1:

a Name of company in 1984; previous names during the period 1968-1984 are given in parentheses.

b Relative market shares are defined as percentage share of an insurer in the total gross premium income of all health insurers included in the data set (together these insurers account for about 90% of the gross premium income of the private health insurance industry during the considered period).

c Market share including take-over(s) or merger(s) during the preceding time-interval. In the cross-section analyses market shares are adjusted for take-overs and mergers. See Table B.2 for a specification of the take-overs and mergers during the period 1969-1984.

Sources Table B.1: Calculations are based on data from annual reports of health insurers, from official annual publication accounts submitted by insurers to the Verzekeringskamer, from the Jaarboek voor het Assurantie- en Hypotheekwezen 61(1969)-63(1972) and Jaarboek/Vademecum voor het Verzekeringswezen 64(1973)-76(1985), and from yearly published statistical reviews of gross premiums and losses by line of insurance for non-life insurance companies (Verenigde Verzekerings Pers 1968-1985).

Table B.3 **Individual premiums of comparable policies offered by health insurers included in data set, 1968-1984**

No.	Health insurance company	Annual premiums of comparable policies[a] for 42-year old men in:					
		1968	1971	1975	1978	1981	1984
01	DEL	211	250	500	640	956	1147
02	Delta Lloyd (Ned. Lloyd)[b]	303	439	847	1105	1414	1698
03	Ennia (NEN)	307	439	823	1074	1374	1646
04	Enzico	242	330	656	883	1209	1184
05	Europeesche[b]	303	439	847	1105	1414	1698
06	FBTO	283	348	510	680	836	973
07	Fedoz	148	294	543	640	820	994
08	Goudse	302	435	825	1080	1382	1658
09	GOV (OZV Aalten)	224	307	552	804	1032	1222
10	Holland[b]	303	439	847	1105	1414	1698
11	Interpolis (Interpolis NCB)	195	321	681	789	n.a.	1715
12	Interpolis ABTB	250	358	681	–	–	–
13	Interpolis LTB	235	342	681	–	–	–
14	Interpolis LVM	180	230	521	–	–	–
15	Levob (Ons Belang)[b]	303	439	825	1085	1414	1332
16	Nationale Nederlanden[b]	303	439	847	1105	1414	1698
17	Nezifo	268	377	821	1039	1554	1863
18	Noord-Holland-Noord	210	256	550	702	879	997
19	Nieuw Rotterdam	309	443	851	1109	1418	1650
20	Nuts	228	313	573	708	895	984
21	NVS	277	305	n.a.	n.a.	n.a.	1166
22	OHRA	230	291	476	627	816	1211
23	OLM (Ziekte Onderlinge)	214	320	601	732	980	1080
24	ONVZ	280	446	n.a.	n.a.	1169	1436
25	Oost-Nederland	352	474	642	846	1106	1264
26	Vezeno	286	420	721	922	1174	1017
27	VGA (Gem. Ass. Fonds)	260	384	776	968	1256	1482
28	VGCN	241	286	597	724	1008	1190
29	VGNN	201	288	524	686	896	1064
30	VGZ	242	346	537	704	863	1005
31	VZS	234	350	617	791	971	985
32	VZVZ[b]	303	439	751	987	1254	1448
33	ZHV (Zuid en Noord)	168	306	471	639	846	937
34	Zilveren Kruis	216	320	505	641	881	1190
35	Zwolsche Algemeene	190	280	n.a.	n.a.	n.a.	n.a.
Mean		251	357	662	859	1126	1311
Standard Deviation		48	69	134	183	239	292

a Premiums charged to 42-years old men for the most common benefits package, consisting of comprehensive third class hospital care, outpatient specialist treatment (including drugs prescriptions), outpatient physiotherapy, medical aids and appliances, and ambulance service. Nearly all health insurers offer such a policy and although there are some minor differences among these policies, the resulting expected premium variation is small enough to warrant comparison. In some cases premium data were adjusted for minor deviations in benefit packages.

b Companies that offer the uniform ANPZ-policy during (part of) the considered period.

Sources: Consumers Union surveys of health insurance policies (Consumentenbond 1968, 1971, 1975, 1978, 1981, 1984), supplemented with data derived from advertisements in newspapers and insurance trade journals.

Table B.4 **Loss ratios of health insurers included in data set, 1968-1984**

No.	Health insurance company	Health insurance loss ratios[a] (in %) in year:					
		1968	1971	1975	1978	1981	1984
01	DEL	76.0	87.8	82.1	92.6	82.3	88.2
02	Delta Lloyd (Ned. Lloyd)	72.9	64.5	69.5	84.7	91.3	89.3
03	Ennia (NEN)	71.3	85.4	76.0	81.3	92.2	100.5
04	Enzico	74.9	89.1	88.1	93.2	88.0	85.6
05	Europeesche	70.0	62.7	71.5	70.0	85.0	90.0
06	FBTO	68.2	62.6	70.4	80.9	75.0	74.4
07	Fedoz	80.0	91.2	93.7	88.6	99.9	87.3
08	Goudse	68.1	72.1	68.4	81.4	88.4	91.1
09	GOV (OZV Aalten)	80.0	77.8	97.6	96.3	88.0	76.2
10	Holland	63.4	59.6	62.9	62.0	78.3	86.2
11	Interpolis (Interpolis NCB)	79.6	82.0	67.2	77.1	86.5	87.0
12	Interpolis ABTB	84.0	86.0	–	–	–	–
13	Interpolis LTB	75.9	80.0	–	–	–	–
14	Interpolis LVM	84.1	86.0	–	–	–	–
15	Levob (Ons Belang)	64.3	71.4	69.2	75.8	69.4	75.8
16	Nationale Nederlanden	71.1	76.7	75.3	79.4	84.0	93.8
17	Nezifo	74.1	90.5	80.5	90.9	88.1	85.1
18	Noord-Holland-Noord	90.3	92.3	81.3	84.7	88.9	85.6
19	Nieuw Rotterdam	91.8	99.9	88.9	92.6	94.9	91.0
20	Nuts	83.2	86.5	90.9	97.7	96.1	88.9
21	NVS	77.7	79.2	76.9	82.9	81.9	79.7
22	OHRA	92.1	85.3	88.1	89.2	87.5	84.0
23	OLM (Ziekte Onderlinge)	88.6	83.9	95.0	91.6	81.4	79.2
24	ONVZ	75.9	80.1	72.4	81.7	81.7	78.4
25	Oost-Nederland	77.9	87.7	99.0	93.4	89.1	92.5
26	Vezeno	70.9	75.5	75.9	82.4	83.3	80.3
27	VGA (Gem. Ass. Fonds)	84.7	83.6	84.4	104.9	104.5	105.9
28	VGCN	85.5	83.7	84.0	95.7	92.0	93.7
29	VGNN	79.2	84.3	91.1	92.3	90.4	94.1
30	VGZ	81.9	90.6	88.8	86.5	85.8	86.7
31	VZS	83.9	88.3	94.6	89.2	86.8	84.7
32	VZVZ	81.3	83.8	74.7	79.5	83.5	79.8
33	ZHV (Zuid en Noord)	86.2	86.2	87.4	93.7	85.6	90.4
34	Zilveren Kruis	84.9	81.9	88.0	91.5	89.0	85.9
35	Zwolsche Algemeene	58.6	65.7	65.7	71.5	66.0	65.9
Mean		78.1	81.3	81.2	86.1	86.4	86.2
Standard Deviation		8.2	9.5	10.3	9.0	7.7	7.8

a Loss ratios are defined as annual claims payments as percentage of annual gross premium income.
Sources: Calculations are based on data from annual reports of health insurers, from official annual publication accounts submitted by insurers to the Verzekeringskamer, from the Jaarboek voor het Assurantie- en Hypotheekwezen 61(1969)-63(1972) and Jaarboek/Vademecum voor het Verzekeringswezen 64(1973)-76(1985), and from yearly published statistical reviews of gross premiums and losses by line of insurance for non-life insurance companies (Verenigde Verzekerings Pers 1968-1985).

Table B.5 **Various characteristics of insurers included in data set, 1968-1984**

No.	Health insurance company	Dummy variables[a] of various insurer characteristics:					
		DDW	DSF	DFP	DRI_{1968}	DHD_{1975}	$DAGE_{1981}$
01	DEL	0	0	0	0	1	0
02	Delta Lloyd (Ned. Lloyd)	0	0	1	0	1	1
03	Ennia (NEN)	0	0	1	0	1	1
04	Enzico	0	0	0	0	0	1
05	Europeesche	0	0	1	0	1	1
06	FBTO	1	0	0	0	1	0
07	Fedoz	1	0	0	1	0	0
08	Goudse	0	0	1	0	1	1
09	GOV (OZV Aalten)	1	0	0	0	0	0
10	Holland	0	0	1	0	1	1
11	Interpolis (Interpolis NCB)	0	0	0\1[b]	1	1	1
12	Interpolis ABTB	0	0	0\1[b]	1	1	–
13	Interpolis LTB	0	0	0\1[b]	1	1	–
14	Interpolis LVM	0	0	0\1[b]	1	1	–
15	Levob (Ons Belang)	0	0	1	0	1	1
16	Nationale Nederlanden	0	0	1	0	1	1
17	Nezifo	0	0	0	0	1	1
18	Noord-Holland-Noord	1	1	0	1	0	0
19	Nieuw Rotterdam	0	0	1	0	1	1
20	Nuts	0	1	0	0	0	0
21	NVS	0	0	1	0	n.a.	1
22	OHRA	1	0	0	0	1	0
23	OLM (Ziekte Onderlinge)	0	0	0	1	0	0
24	ONVZ	0	0	0	0	n.a.	1
25	Oost-Nederland	1	1	0	0	0	0
26	Vezeno	0	1	1	0	1	0
27	VGA (Gem. Ass. Fonds)	0	1	1	0	0	0
28	VGCN	1	1	0	0	0	0
29	VGNN	0	1	0	1	0	0
30	VGZ	1	1	0	0	1	0
31	VZS	1	1	0	0	0	0
32	VZVZ	0	0	1	0	1	1
33	ZHV (Zuid en Noord)	1	0	0	0	0	0
34	Zilveren Kruis	1	1	0	0	0	1
35	Zwolsche Algemeene	0	0	1	0	1	1
Mean		0.31	0.29	0.37\0.49	0.26	0.61	0.50

a The dummy variables are defined as follows:
DDW = 1, if the insurer is a direct writer; DDW = 0, if not
DSF = 1, if the insurer is allied with a sickness fund; DSF = 0, if not
DFP = 1, if the insurer is a for profit (or stock) company; DFP = 0, if not
DRI_{1968} = 1, if the insurer has a statutory restricted regional working area in 1968; DRI_{1968} = 0, if not
DHD_{1975} = 1, if the insurer offers a high deductible policy (≥ Dfl 500 per individual per year); DHD_{1975} = 0, if not
$DAGE_{1981}$ = 1, if the insurer offers a policy with age-related premium rates to adults; $DAGE_{1981}$ = 0, if not

b Transformed from mutual (DFP = 0) into for-profit (DFP = 1) company in 1971

Sources: Consumentenbond (1968, 1971, 1975, 1978, 1981, 1984), Annual reports of (health) insurance companies.

Appendix C Establishments, failures and take-overs of private health insurance plans, 1900-1940[a]

Starting year	Insurance company[b]	Type[c]	Failure year	Take-over	
				Year	Company
1906	Vertrouwen	C	1930	–	–
1907	Boerhaave	C	–	1981	Ennia
	Het Noorden	C	–	1990	Het Anker
1908	Hollandsche Kruis	C	–	1988	Helvetia
1909	Risico Verz Mij	C	1922	1922	Concordia
1910	Alg Ned Verz Bank	C	1913	–	–
1911	St Lucia	C	1913	–	–
1913	Ned Ziekte Waarborg Mij	C	1915	1915	Risico Verz Mij
1914	Oude Moira	C	–	1988	UAP
	Concordia	C	1923	1923	ENMZ
1915	ENMZ	C	–	1984	VZVZ
	Labor	C	–	1950	VZVZ
1916	Utrechtse Alg Verz Mij	C	1930	–	–
1918	Fatum(I)	C	1930	–	–
	Nieuwe Boerhaave	C	1930	–	–
1920	OMZO	C	1946	–	–
1921	NOVM	C	–	1976	Hollandsche Lloyd
	Cura	C	1931	–	–
1922	Holland Varia	C	–	1984	VZVZ
	De Econoom	C	1924	–	–
	Fiducia(I)	C	1936	–	–
1923	De Verpleging (DVZ)	H	–	–	–
	Diligentia	C	1931	–	–
	Emir	C	1929	–	–
1924	Ambtenaren Centrale	C	–	1992	UAP
	Eerste Amsterdamsche	C	1928	–	–
	MVZ (Goudse)	H	–	–	–
	Helpt Elkander	C	1926	–	–
1925	IRO	H	–	1943	Noordzee
	NEN	H	–	1974	Ennia
	OHRA	H	–	–	–
	Nicolaas Tulp Alg Verz Mij	H	–	1965	AMVO
	Ziekenzorg	C	1949	–	–
	Victoria	H	–	1991	Nationale Nederlanden
1926	Medische Hulp	C	–	1981	Ennia
	Precautia	C	–	1976	Providentia
1927	DEL	H	–	1992	OHRA
	Zifob	C	–	1970	Ons Belang
1928	Zuid- en Noord-Beveland (ZHV)	H	–	–	–
	AVS	H	–	1969	Holland v 1859
1929	Navema	C	–	1935	Boerhaave
	ZVGPA	C	–	1968	Zilveren Kruis
	Doziver	C	1941	–	–
	Emma	H	–	1968	De Unie

Starting year	Insurance company[b]	Type[c]	Failure year	Take-over	
				Year	Company
1930	ABTB	H	–	1975	Interpolis
	Eerste Rotterdamsche	H	–	1970	Nationale Nederlanden
	ZGSP	C	–	1979	OHRA
	Eigen Hulp	C	1933	–	–
1931	HOZO	H	–	1965	Nederlandsche Lloyd
	Verpado	C	1944	1944	NVS
	Fatum(2)	H	–	1970	Nationale Nederlanden
	Gemeente Haarlem	H	–	1968	Zilveren Kruis
1932	Onderlinge Hulp	H	–	1971	GAM
	Alg Bond v Ziektekostenverz	C	1950	–	–
	Generale Verz Mij	H	–	1969	Comp v Assuradeuren
	VMEZ	C	1940	–	–
	The Ocean	H	–	1968	Nederlandsche Lloyd
1933	Enzico	C	–	1990	AVCB
	Nederlanden	C	–	1958	Hercules
	Alg Ned Ond Ziektekostenverz	C	1950	–	–
	HARO	H	1946	–	–
	DAVA	C	1937	–	–
	VONA	C	1935	–	–
1934	AMZA	C	–	1965	Comp v Assuradeuren
	NVS	C	–	–	–
	ONVZ	H	–	–	–
	VZVZ	C	–	1987	UAP
	Groene Kruis	C	–	1961	Noord Holland, Alkmaar
	Nederland, Amersfoort	C	1940	–	–
	Eerste Utrechtse Middenstands Zkv	C	1936	–	–
	MVS	H	–	1969	AMEV
1935	Anzoco	C	–	1962	Onderlinge Hulp
	Erzov	C	1939	–	–
	Zieko	C	1938	–	–
	Nederland, Den Haag	C	1937	–	–
1936	Nederlandsche Lloyd	H	–	1992	Nuts – Aegon
	Voorzorg	C	–	1969	Nederlandsche Lloyd
	Noord-Holland, Bussum	H	1942	–	–
	Alg Noord Ned Verz Mij	C	1939	–	–
	De Econoom	C	1938	–	–
	Europeesche	H	–	1988	UAP
	ZVVA	C	?	?	?
	Anticas	H	1960	–	–
1937	Zuid-Nederland	C	1945	–	–
	Holland v 1859 (AMEV)	H	–	–	–
	Nationale Ass Waarborg Mij	H	1944	–	–
1938	PZV Wit-Blauwe Kruis (Amersfoortse)	H	–	–	–
	Holl Mij Rotterdam-Gouda	H	–	1951	Holland-Woudsend
	Utrechts Ziekenhuisverplegingsfonds	H	–	1970	VGCN
	Noord-Zuid Hollander	H	–	1950	Neerlandia v 1880
	ENZET	H	1941	–	–
	De Burcht	H	–	1974	Hollandsche Lloyd

Starting year	Insurance company[b]	Type[c]	Failure year	Take-over	
				Year	Company
	Zaanlandsche Ass Comp	H	–	1969	Holland v 1859
1939	Ned Varia Verz Mij	C	–	1965	Emma
	VZK	C	?	?	?
	Fiducia(2)	H	–	1965	AVS
	PTT Personeelsfonds	H	–	1981	OHRA
	Sliedrechtse Verz Mij	C	–	1970	Stad Rotterdam
	Hestia	C	1954	–	–
	Arnhemse Verz Sociëteit	H	1955	–	–
	Oude Zwolsche	H	–	1984	Ennia
	Zeyl's Verz Mij	H	–	1948	Eerste Rotterdamsche
1940	Noordhollandsche v 1816	H	–	1990	Levob
	Oude Haagsche	H	–	1974	Tiel-Utrecht
	Stad Amsterdam	H	1965	–	–

Notes to appendix C:

a Including only indemnity insurance plans; service benefits plans which also offered some health insurance coverage to the middle class, such as commercial sickness funds and local hospital insurance funds, are not included.

b Names of in 1993 still operative health insurance companies in parentheses.

c C = Comprehensive health insurance plan, providing coverage of hospital and specialist care, visits to general practitioners and prescription drugs.
H = Hospital insurance plan, covering only hospital care and specialists' treatment.

Sources Appendix C: Jaarboek voor het Assurantie- en Hypotheekwezen, 12(1915)-63(1972), Jaarboek/Vademecum voor het Verzekeringswezen, 64(1973)-83(1992), Kunneman (1951), Nederlandse Staatscourant (1968-1992), insurance trade journals (1915-1993).

5

Workable competition in health care: prospects for the Dutch design[1]

Summary

Since 1989 a gradual restructuring of the Dutch health care system is taking place to realize a multiple choice social health insurance system with workable competition among insurers and among health care providers. This chapter investigates whether the structural change is likely to induce the intended competition. An examination of the characteristics of the markets for health insurance, physician services and hospital services in the Netherlands points out that the scope for competition is limited. If competition is to work, rather extensive government regulation to monitor the conduct of both providers and insurers is needed. Without an effective antitrust policy a high degree of concentration and collusion is likely.

5.1 Introduction

On both sides of the Atlantic, budgetary constraints and demographic and technological change have fuelled a quest for the Holy Grail of an efficient, equitable, affordable and innovative health care system. Because these goals are neither unambiguously defined nor completely compatible, the treasure is hard to find.

Several Western European countries are looking for ways to restructure their health care systems in order to contain costs and to improve efficiency of health care delivery while maintaining universal coverage. The most radical health care reforms are proposed and are currently being implemented in the Netherlands (WVC 1988) and the United Kingdom (Culyer et al. 1990). Both reform proposals intend to strengthen the role of market forces in health care.

1 A slightly adapted version of this chapter has been published in Social Science and Medicine (Schut 1992a).

However, where pro-competitive adjustments in the UK are confined to health care delivery, in the Netherlands they comprise both provision and finance of health care. The different scope reflects the disparate health care financing systems in both countries. Obviously, competition among third party payers is a less straightforward policy option for the centralized tax funded British National Health Service than for the decentralized Dutch health insurance system.

This chapter investigates the feasibility of workable competition in the Dutch health care system given its institutional features and historically determined market structure. The objective is to ascertain whether the intended competition among providers and among health insurers is likely to occur at all, rather than to assess whether competition in the Dutch health care system may improve efficiency or contain costs.

The conditions in the health care industry are remote from those required for the realization of the perfect competition model. Hence, the Dutch health care reform is not aimed at attaining conventional welfare economics' first-best or even second-best solutions to the allocation of health care resources. Instead, the objective of the reform is to create the conditions for 'workable' competition, resulting in an improvement of the overall performance of the health care industry. Although 'competition' is not defined explicitly in the health care reform proposals, its purport is actual or potential rivalry among providers and among health insurers, who are striving independently for the customer's patronage.

The phrase workable competition was coined by Clark (1940, p. 243), who provided the following generic definition: 'competition is rivalry in selling goods, in which each selling unit normally seeks maximum net revenue, under conditions such that the price or prices each seller can charge are effectively limited by the free option of the buyer to buy from a rival seller or sellers of what we think of as 'the same' product, necessitating an effort by each seller to equal or exceed the attractiveness of the others' offerings to a sufficient number of sellers to accomplish the end in view.'

For several decades industrial organization economists have been trying to formulate appropriate criteria for judging the workability of competition. These efforts resulted in an extensive list of criteria of market structure and conduct which are expected to be associated with workable performance.[2]

2 See Scherer and Ross (1990, p. 53-54) for a résumé of the structural, conduct and performance criteria. Workable competition is associated with a market performance such that productive efficiency approaches the best attainable, output levels and product quality are responsive to consumer demands, profits are just sufficient to reward investment, efficiency, and socially desirable innovation, and promotional expenses are not excessive.

The resulting structure-conduct-performance paradigm provides a framework (rather than a precise yardstick) for assessing the likelihood of workable competition in the Dutch health care industry.
The chapter is organized as follows. First, a bird's-eye view of the Dutch health care system is provided. Then the main features of the Dutch health care reform are described. In subsequent sections the potential impact of the proposed reform on the performance of the markets for health insurance, physician services and hospital services are discussed.

5.2 The Dutch health care system

The health care system in the Netherlands is a complex mixture of elaborate government regulation and private enterprise. A distinguishing feature of the Dutch system is the strict separation of the financing and delivery of health care. Social insurance bodies are legally forbidden to employ providers or to run health care institutions and private health insurers have traditionally been anxious not to interfere with medical practice. Despite the predominance of private ownership, the Dutch health care system is heavily regulated by government. Particularly since the mid-seventies government tried to gain control of the allocation resources in health care (see Chapter 2). As a result the present Dutch health care system is dominated by government regulated cartels of providers and insurers.

5.2.1 Health care financing structure

The private origins of the health care financing system are exemplified by the fact that 32% of the population is currently privately insured for non-catastrophic risks, which is by far the highest percentage in Western Europe. Besides, the compulsory social insurance system for the majority of the public is administered by an originally large – but now rapidly diminishing – number of autonomous sickness funds. The only national scheme is the social insurance for catastrophic risks, enacted in 1967, which accounts for about 25% of total health care expenditures in 1990.
Despite their private offspring, sickness funds have become purely administrative bodies. Their eligible population is legally determined. Those who are obliged to enroll in sickness funds are primarily non-government employees, retirees, disabled and unemployed persons (and their dependents), with an income below a yearly adjusted specific level. Benefits package and premiums are uniformly dictated. Premiums are paid into a general fund, administered by the Sickness Fund Council, a central regulatory body. Until 1990 sickness funds were not at financial risk because they are retrospectively fully reim-

bursed for the medical expenses of their enrollees. Furthermore, sickness funds had very limited power to influence medical practice because of a legal obligation to contract with all providers in their region at nationally determined uniform conditions. Finally, owing to a legally established territorial division of the market nearly all sickness funds had a regional monopoly.

By contrast, more than 60 private insurers, both for-profit (stock) and not-for-profit (mutual) companies, vigorously compete for a share of the remaining part of the health insurance market. Although competition among private health insurers is intense, it is directed to a rather small part of the insured population. For people over the age of forty, switching to another insurer is very expensive because insurers charge age-related entrance-premiums to mitigate adverse selection problems. Until the mid-eighties, there was little government regulation of the private insurance market. As a result of continuing price competition among private health insurers since the beginning of the seventies, the historically rather undifferentiated premium structure rapidly became increasingly risk-related.[3] Once initiated, the process of cream-skimming (by insurers) and adverse selection (by consumers) induced an accelerating differentiation of premiums and benefit packages (see Chapter 4).[4] The rapidly increasing premiums for the elderly and other high-risk groups were jeopardizing the preservation of universal coverage. Therefore, in 1986 the Health Insurance Access Act (WTZ) was adopted to maintain the access to private health insurance. Private insurers were obliged to offer specified risk groups a comprehensive benefits package for a legally determined maximum premium. The eligible population for this 'standard benefits policy' was extended in 1989 to all people over the age of 65 and in 1991 to all private insureds who pay more than the maximum standard premium. Because the imposed maximum premium is far below the actuarial fair level, insurers incur losses on the standard benefits policies. These deficits are pooled and levied

3 In spite of the absence of government regulation, private health insurers charged community rated premiums until the 1970s. However, there have been other impediments to tailor premiums to risks, such as the threat to provoke government regulation, social goals of not-for-profit private health insurers, cartel arrangements among more than 20 for-profit private health insurers, and the fact that multiple-line insurance companies consider health insurance a lure to sell more profitable lines of insurance. During the 1970s the increasing cost of medical care made risk selection more and more profitable, which triggered a snowballing process of premium differentiation and market segmentation.

4 The opportunities of risk selection in the Dutch private health insurance market are relatively large because 69% of all insurance contracts are concluded with individual households (KISG 1989). By contrast in the US about 90% is employment-based group health insurance and more than two-thirds of employees are offered only one plan by their employers (Short and Taylor 1989). Nevertheless, increasing competition among US health insurers results in avoidance of high-risk non-group individuals (Fanara and Greenberg 1985) and of small business employee groups (GAO 1990). Moreover, risk-selection does occur when employees are offered a multiple option choice (Schuttinga et al. 1985, Strumwasser et al. 1989).

on all private insureds. Because in 1991 already 35% of total claims were caused by standard policy holders, private insurers have become regulated administrative bodies for a substantial part of their business. So, independent from the health care reform, there is a clear tendency to socialize private health insurance in order to maintain universal financial access to health care.

5.2.2 Health care delivery structure

The health care delivery system is an even more confusing amalgam of government regulation and private initiative. Most physicians operate as a self-employed entrepreneur. There is a sharp distinction between general practitioners and medical specialists. Sickness funds and most private health insurers require that patients must have a referral from a general practitioner before consulting a specialist. General practitioners are paid on a capitation basis for sickness fund patients and on a fee-for-service basis for privately insured patients. Regardless of the type of insurance most medical specialists are paid fee-for-service, whereas private fees are on average about twice as high as the fees for sickness fund patients.

Fees and capitation payments are uniformly determined through a legally prescribed negotiation process. Based on the Health Care Prices Act (WTG) of 1980 a specially appointed autonomous body, the Central Office on Health Care Prices (COTG), sets out guidelines for the composition and calculation of prices. After approval by the government these guidelines are used by representative organizations of providers and insurers to negotiate the actual charges which in turn have to be approved by the COTG. The associations of general practitioners and specialists on the one hand and those of sickness funds and private health insurers on the other hand are designated by law as representative negotiators. Although the government left very little room for true negotiations the formal institution of a bilateral monopoly considerably reinforced the power of the providers' and insurers' associations.

In contrast to the strong interference with price of physician services, government did not succeed to control output. So, in spite of the price regulation the system is still open to cost inflation. However, by restricting the supply of physicians the government tried to control output indirectly. Since 1986 entry of general practitioners is controlled by a practice location regulation determining the minimum and maximum permitted practice size. In addition, the government can control the supply of medical specialists because specialist positions in hospitals need government approval in order to get reimbursement by the sickness funds. Furthermore, the government has restricted the entry to medical schools and supports the reduction of the resident training capacity which is controlled by the professional associations (Lapré and De Roo 1990).

Most hospitals in the Netherlands are established and maintained by voluntary organizations. Although only few hospitals are actually owned by either municipalities, provinces or the state, government influence upon the hospital sector is pervasive. Up till now, prices, production and capacity of Dutch hospitals are all subject to government regulation. Hospital capacity is strictly regulated by the Hospital Facilities Act (WZV). Before hospital construction may take place a government licence must be obtained. To establish production volume and prices, hospitals have to negotiate an annual budget with the local sickness funds and representatives of private health insurers. The room for negotiation is limited by the budget guidelines of the COTG. Once the annual budget has been approved by the COTG, hospital prices and production targets are determined.

5.3 Health care reform

Since 1989 the Dutch health care system has been gradually moving towards a more competitive structure. The restructuring is based on the recommendations by the so-called Dekker Committee in 1987, which are laid down in a report entitled 'Willingness to Change'. With some revisions these proposals were endorsed by two consecutive coalition cabinets, together covering nearly the whole political spectrum.[5]

For the following four main reasons the health care reform was thought to be necessary (WVC 1988). First, the results of detailed government regulation of prices and capacity were generally disappointing. Next, the present fragmented health care financing structure effectuates an inefficient allocation of resources because the choice of treatment is often more directed by the source of payment than by considerations of cost-effectiveness. A third reason for the proposed health care reform is the lack of incentives for efficiency in the present system. Neither sickness funds nor physicians benefit from a more efficient provision of health care. Finally, problems of securing access to health care due to the accelerating premium differentiation and risk-selection in the private health insurance sector contributed to the widespread belief that a reform of the health care financing system was required. At present the performance of the private health insurance market is considered to be socially counterproductive. A lot of energy is spent on tracing the good risks relative to the existing premium structure, resulting in a socially undesirable reallocation of resources without any significant effect on the efficiency of medical care.

5 The successive government proposals 'Change assured' (WVC 1988) and 'Working on health care innovation' (WVC 1990a) delineate the objectives and time schedule of the health care reform.

The two key elements of the government's proposals are a compulsory comprehensive 'basic insurance' for all citizens and regulated competition among health care providers and among health insurers. According to the 1990 proposal, the legally mandated benefit package of the basic insurance had to cover about 96% of all medical expenses.[6] Hence, the present fragmented health insurance system would be replaced by a uniform national insurance scheme. At least 85% of the cost of the basic benefit package would be paid for by income-related premiums, which are collected in a Central Fund. Health insurers would receive a premium replacing risk-adjusted payment per insured from the Central Fund. The amount of money an insurer receives would depend on the actuarial group (e.g. age, sex, health status) the insured belongs to. The remaining part of the premium for the basic benefit package would be paid directly by the insured to the insurer. Insurers would be allowed to vary the flat rate premium to create room for effective price competition.[7] The new payment mechanism would apply to both sickness funds and private health insurers. Eventually, the legal distinction between sickness funds and private health insurers would be abolished and people would be free to choose whatever insurer they like. Insurers would be required to accept applicants irrespective of risk or health status. To ensure sufficient market stability this open-enrollment requirement would not apply to applicants who want to switch to another insurer within two years after their previous choice.

The key function of the Central Fund is to combine equity and efficiency. Equity is introduced by income-related premiums that are independent of age and health status. By adjusting the progressiveness of the income-related premiums any desired level of cross-subsidies from high to low income groups can be established. The risk-adjusted payments from the Central Fund to the insurers should neutralize insurers' incentives for preferred risk-selection (i.e. selection of favorable risk groups relative to the premium) and provide them with incentives to improve the efficiency of health care delivery.[8]

6 Of course a comprehensive compulsory benefit package implies some welfare loss since it requires low-risk groups to purchase too much health insurance. On the other hand a mandated broad benefit package may generate important welfare gains. First, lowest-cost substitutes will not be ignored because they are not covered as could happen in case of a narrow benefit package. Second, the problem of potential free rider behavior is avoided. Finally, because of the standardized benefits, the information on price and quality of insurer services is relatively easy to compare.

7 Notice that in the US the average employer contribution to the health insurance premiums of their employees amounts to approximately 90% for individual coverage and 75% for family coverage (Gabel et al. 1989). Several studies indicate that employees are very sensitive to out-of-pocket premium differentials (Welch 1986, Long et al. 1988, Feldman et al. 1989).

8 In the Netherlands several research projects are in progress to determine a workable formula (Van Vliet and Van de Ven 1992). Besides there is a fast growing literature on the same subject in the US, stemming from the need to develop a proper formula for paying HMOs to provide care to Medicare beneficiaries (Newhouse et al. 1989).

The mandated basic benefit package would not be described in institutional but in functional terms, meaning that no longer the type of provider but only the type of care is specified. This should increase the substitutability of health care services. Insurers are supposed to become powerful prudent buyers on behalf of their insureds, collecting and using information about provider behavior to select efficient and high quality health care providers. The basic idea is to provide consumers and representative consumer organizations with incentives and information to select cost-effective health insurers, which in turn get freedom to negotiate contracts with providers. If there is enough competition in both the market for health insurance and that for health care delivery, consumers should motivate insurers to select cost-effective providers. The health care reform proposals envisioned a considerable deregulation of the hospital industry. First, the Hospital Facilities Act would be confined to the planning of large hospital facilities. Next, negotiations between hospitals and health insurers would no longer be subject to detailed guidelines. The transition to a system of free negotiations will be gradual because it will take time to correct the currently distorted purely administrative hospital prices. Therefore, for the time being the hospital budgeting system would be maintained.

Since 1990 the system of retrospective reimbursement of sickness funds is gradually replaced by the proposed prospective budgeting system. In the end, sickness funds will be totally at risk for the health care costs incurred by their insureds. Furthermore, by a pivotal amendment of the Sickness Fund Act in January 1992 the legally defined boundaries of the sickness fund regions have been removed and the obligation to contract with all providers at the same conditions has been abolished. By the abolition of the legal contracting obligation for sickness funds and the partial deregulation of fees of health care providers in 1992 (becoming effective in 1994), two important preconditions for selective contracting have recently been fulfilled. The government aimed at full implementation of the reforms by the beginning of 1995. However, this time horizon appeared to be far too optimistic.

5.4 Prospects for workable competition

Assuming that an adequate risk-adjusted payment system to compensate insurers is feasible and satisfactory solutions to other technical problems can be found (see Chapters 1 and 2), the question remains whether the restructuring of the health care system will indeed lead to workable competition among the participants.

An important weakness of the reform proposals is that a clear link between

structure and conduct is missing. The hidden presupposition seems to be that a deregulation of the present legal barriers to competition will compel the desired conduct and performance. However, the same incentives that are supposed to result in competition may also induce collusion with adverse effects on performance. The historically determined structure of the health care industry, which is dominated by cartels that are often instituted or backed by the government, facilitates anticompetitive conduct. A closer look at the features of the markets for health insurance, physician services and hospital services will learn that competition is anything but straightforward.

5.4.1 The market for health insurance

The main reason for reforming the health insurance system is to create the necessary conditions and incentives for a workable species of competition which should be directed at increasing the efficiency of medical care. On the one hand this implies that health insurers should possess enough market power to affect the price or quality of medical care.[9] On the other hand, if a health insurer obtains too much buying power, the adverse welfare effects could be considerable (Pauly 1988b). A dominant health insurer can safeguard his position by using his market power to deny medical inputs or to raise their prices to other insurers. Hence, monopsony could become a permanent source of market power. This might not be a problem for unconcentrated health insurance markets, where a dominant position may be very difficult to obtain. However, if for reasons other than market performance some health insurers have acquired a dominant position, the prospects for workable competition among health insurers might be limited. The Dutch health care reform cannot start at point zero, but has to built on the historically determined structure of the health insurance industry. This implies that after the reform sickness funds will be in an advantageous starting position because each sickness fund is located in a separate region in which they typically have more than 60% market share. Moreover, the health care reform induced a merger wave in the sickness fund sector. Anticipating the loss of their present regional monopolies many sickness funds decided to merge. As a consequence the number of independent sickness funds decreased from 46 in 1987 to only 26 in 1991. Since most of the mergers involve sickness funds with adjacent working areas the regional market power of sickness funds is further strengthened. Hence the remaining sickness funds may already have a critical buying leverage to drive other insurers out of the local market place.

9 In the evident absence of perfect competition among providers, perfect competition among health insurers is not desirable because as price takers they cannot exert any influence on medical practice.

The future market position of the sickness funds may correspond in many aspects to the one presently taken by Blue Cross and Blue Shield plans in the US.[10] In response to the increasing competition from HMOs and PPOs in the eighties, several Blue plans tried to eliminate competitors by using their monopsony power in various ways. Allegations of anticompetitive behavior led to a number of federal antitrust cases against the Blues (Miller 1988). Similar problems may arise with respect to the sickness funds.

Contrary to the sickness fund sector, the market for private health insurance was very unconcentrated. The geographic market is much larger because private health insurers can sell their policies all over the country. As shown in Table 5.1 in 1986 the largest four private health insurers together had a market share of only 35 percent.

Table 5.1 **Market concentration in the Dutch private health insurance industry in 1986 and 1992**[a]

No.	Year: 1986			Year: 1992		
	Largest ten health insurers	Market share (% premium income)		Largest ten groups of health insurers	Market share (% premium income)	
		Individual	Cumulative		Individual	Cumulative
1	Zilveren Kruis	15.4	15.4	Zilveren Kruis/AVCB	23.3	23.3
2	OHRA	7.9	23.3	Nuts-AEGON	14.7	38.0
3	VGZ	6.8	30.1	MultiZorg	14.1	52.1
4	AEGON	5.7	35.8	OHRA/ZHV	11.4	63.5
5	Nuts	5.4	41.2	VGZ/AMEV	7.5	71.0
6	VGNN	5.4	46.6	Interpolis/Nw-Rdam	6.5	77.5
7	Interpolis	4.1	50.7	VGNN	5.4	82.9
8	Delta Lloyd	3.1	53.8	Univé	3.6	86.5
9	NNVS	3.0	56.8	CZ Groep	3.0	89.5
10	UAP	2.9	59.7	Zwolsche Algemene	2.3	91.8

a The Herfindahl-Hirschman Index (HHI) increases from 545 in 1986 to 1252 in 1992.
Sources: Schut (1989); Annual reports of health insurance companies.

Dutch private health insurers are primarily performing a risk pooling function. Apart from this 'pure' insurance service, health insurers can provide another service, which can be defined as 'cost containment', 'expenditure control' or 'limitation of moral hazard' (Pauly 1988c). Given that all Dutch private insurers cover medical expenses rather than providing indemnity insurance, the rationale for individual insurers to control cost is evident (see Chapter 1).

10 Both sickness funds and Blue plans are not-for-profit organizations with a historically determined large regional market share; both provide service benefits instead of indemnifying medical expenses and sell no other type of insurance. In addition, the majority of the insurers of both types have agreed not to compete with each other.

Despite this fact, very few insurers actively try to manage care for the sake of expenditure control. A major reason for this is that the originally community rated premium structure still leaves ample room for selecting favorable risks. Consequently preferred risk-selection is considered to be more profitable and less risky than engaging in the unknown area of managing medical practice. Thus conceiving health insurance as a joint product, consisting of variable proportions of risk spreading and cost control, the Dutch private health insurance market is strongly biased towards the former type of service.[11] Since 'pure' insurance services are easy to imitate and require limited investments, entry barriers are low (Pauly 1988c) and economies of scale are virtually absent (Blair and Vogel 1978). Hence, it is unlikely that any insurer will be able to obtain or retain market power.

The reform of the Dutch health insurance system will have a profound impact on the market structure. If the risk-adjusted payment system to compensate insurers can prevent preferred risk-selection, the main activity of the health insurance business may become expenditure control. For several reasons the cost controlling function requires a considerable minimum scale. First, investments necessary to manage care, such as recruiting and training staff and purchasing computerized information systems, will increase capital requirements. Significant economies of scale are observed in undertaking cost containment programs by insurers (Feldman and Greenberg 1981). The increasing economies of scale may put up a barrier to entry for new firms. Second, insurers need enough bargaining power on a local level to negotiate favorable contracts with health care providers. Since bargaining power will be determined by local market share, the relevant geographic market for health insurance will shrink. Instead of the present national market, the future health insurance industry will consist of a number of regional or local submarkets.

In order to survive in such a market, private health insurers are actively searching for strategies to increase regional market power. Some of the largest private health insurers that were once established by sickness funds (e.g. Zilveren Kruis and VGZ) have signed agreements to merge with a number of these sickness funds when the legal separation of the two types of insurers is abolished. Since the beginning of the health care reform in 1989, many insurers with a relatively small share of the health insurance market have decided to sell their policies to one of the larger health insurers. Moreover, most of these larger health insurance companies are involved in mergers or seeking some other form of co-operation. In 1992, seven major multiple-line

11 In the American group health insurance market, where opportunities for preferred risk-selection are less extensive than in the individual insurance market, managed care is a rapidly growing activity. In 1988 72% of Americans with employer-sponsored coverage were enrolled in a managed care plan, as compared with 59% the year before (Gabel et al. 1989).

insurance companies combined forces to establish MultiZorg, an organization for joint negotiating contracts with health care providers, joint purchasing of drugs and medical devices, and for automation support. Owing to this clustering of health insurance activities, market concentration in the private health insurance industry increased dramatically (see Table 5.1). As a consequence, private health insurance market is dominated by a few groups of private health insurers.

As remarked earlier, health insurers must have enough countervailing buying power to be able to influence price, quantity and quality of medical care. Hence, particularly among private health insurers the current wave of mergers and joint ventures might be desirable. On the other hand, an ongoing market concentration, especially among sickness funds or among sickness funds and allied private insurers, could result in unbalanced monopsony power with adverse welfare consequences. At present the Dutch government cannot prevent such mergers because the antitrust law does not contain provisions to prohibit mergers or takeovers (see Chapter 6).

5.4.2 The market for physician services

The Dutch market for physician services has a long-standing tradition of anticompetitive self-regulation. In the twentieth century the medical profession has acquired a substantial control over entry, production, price-setting and financing. Market behavior is regulated by collective bargaining and binding ethical codes of powerful professional associations.

The market power of the medical profession not only stems from self-regulation but, as described earlier, is also strongly enhanced by government regulation. One of the most important sources of market power of physicians is the legal obligation for sickness funds to contract with all physicians in their region on nationally determined uniform conditions. Before this contracting obligation was legalized by the Sickness Funds Decree of 1941, it was the main issue during the pre-war 'battle' between physicians and independent sickness funds. After the Decree physicians no longer needed to compete for a contract with a sickness fund. The main argument of the medical profession for the non-selective contracting obligation for sickness funds was a guaranteed free choice of doctor by the patient. Although patients are in principle free to choose providers (within the boundaries of a sickness fund region), they are at the same time deprived of any right or incentive to select providers on the basis of price and efficiency. In the US, these anticompetitive effects of the 'free choice' ethics of the American Medical Association led to the somewhat counterintuitive ruling of the Federal Trade Commission in 1979 and the following 1982 Supreme Court decision that the free choice requirement violated the antitrust laws (see Chapter 6).

Having regard to the past, the abolition of the legal contracting obligation for sickness funds and the partial deregulation of fees of health care providers are unprecedented. Another noteworthy step is the repeal of the practice location regulation for general practitioners in 1992, which removes an important legal entry barrier. These measures should pave the way for competition among providers in order to get favorable contracts with health insurers.

However, competition is not the only and perhaps not even the most likely response to the proposed reforms. At present, individual or local groups of physicians lack any bargaining skills because of the legalized collective negotiations on fees and other contractual terms. The Royal Dutch Medical Association (KNMG) has stipulated that in a future health care system collectively negotiated contracts with insurers should be binding for all providers and insurers, resulting in uniform prices on a national level and other uniform contractual conditions on the regional level. Furthermore, the medical profession is anticipating the reforms by reducing the resident training capacity of medical specialists and general practitioners, thereby raising entry barriers and creating scarcity. As a consequence of the manpower planning by the professional associations, the excess supply of general physicians and medical specialists during the eighties was virtually eliminated at the beginning of the nineties. Ironically, for fear of supplier-induced demand government policy still encourages and supports capacity reduction of professional education. These conflicting policy objectives demonstrate that Dutch health care policy finds itself in a transition period from a planning-oriented towards a market-oriented approach. However, by a persistent reliance on familiar planning tools, policy-makers run the risk to frustrate the workability of the market-oriented approach in advance. Besides, the opportunities to counteract anticompetitive physician behavior through the application of antitrust laws are limited as long as the Netherlands remains the cartels' Land of Cockaigne within Europe (see Chapter 6).

5.4.3 The market for hospital services

The nature of the hospital market provides hospitals with a substantial market power. The service area of most hospitals is limited to an approximately 15 mile (24 km) radius (Luft et al. 1989). Moreover, hospitals have a considerable minimum size, which severely restricts the maximum number of hospitals within the same geographic market.[12] Accordingly, the hospital industry is characterized by a high level of market concentration. In comparison to other

12 The Hospital Facilities Act requires a new general hospital to have a minimum size of 175 beds, in order to guarantee the availability of two full-time medical specialists of each of the six so-called 'core specialties'.

Table 5.2 **Distribution of hospitals by the number of other hospitals within a 24 km (or 15 miles) radius: Comparison between the United States and the Netherlands**[a]

Number of hospitals within a 24 km radius	US (% of hospitals)		Netherlands (% of hospitals)	
	Whole country	Mid-Atlantic[b]	Whole country	Randstad[c]
0	23.1	6.7	2.7	2.9
1	17.6	9.3	6.1	0.0
2 -4	21.0	18.0	25.0	1.4
5-10	12.0	16.2	21.6	5.7
11-15	4.4	2.5	14.2	25.7
16-20	2.6	3.5	21.7	45.7
21-25	3.6	1.9	8.8	18.6
26-30	2.0	4.0	0.0	0.0
>30	13.7	38.0	0.0	0.0
Total number of hospitals	6,520	738	148	70

a Data relate to 1972 for the United States and 1988 for the Netherlands; US hospitals in Hawaii and Alaska are not included because of the unique geographic features.
b States of New York, New Jersey and Pennsylvania.
c Provinces of North-Holland, South-Holland and Utrecht (accounting for 45% of total Dutch population).
Sources: Luft and Maerki (1984) for US data; Bartels (1988) for computation of the Dutch data.

countries, however, the Dutch hospital industry is relatively unconcentrated thanks to the high population density.

As shown in Table 5.2, a natural monopoly is a rare phenomenon in the Dutch hospital market. Nine out of ten hospitals in the urbanized Dutch Randstad area, accounting for about 45% of the population, have more than ten potential competitors in their vicinity. By contrast, already in 1972 nearly a quarter of US hospitals had no potential competitor within a 24 km radius.[13] Apart from the large metropolitan areas with more than 30 competing hospitals, the majority of US hospitals – even in the densely populated Mid-Atlantic area – face little competition. However, it should be noticed the actual competitive pressure on hospitals may be higher than suggested by these figures because of the rapidly growing number of outpatient substitutes for some hospital services in the US.[14]

13 Given the rapid consolidation of US hospitals during the eighties, the proportion of hospital monopolies has probably been increased since 1972.

14 Besides, the propensity to travel may differ in the two countries, probably being higher in the US. On the other hand, in the US not only patients and their visitors have to travel, but also their community-based physicians, which is very unusual in the Netherlands. Robinson and Luft (1988) assume the willingness of the attending physician to travel to be the major restriction on size of the hospital market.

Although the Dutch hospital market structure seems to be more suitable for a market-oriented approach than the American, the market concentration is still high as compared to most other industries. According to the 1984 Merger Guidelines of the US Department of Justice, markets with a Herfindahl-Hirschman Index (HHI) of more than 1800 are regarded as highly concentrated.[15] Hence, in those markets even relatively small mergers are judged by their competitive impact. If hospitals are regarded as economic units providing a cluster of services[16] and the legally defined Dutch 'Health regions' are taken as the relevant geographic hospital markets[17], most regional hospital markets in the Netherlands are highly concentrated, as shown in Table 5.3.

Despite the already high level of regional market concentration, the Dutch hospital industry is undergoing a rapid consolidation process. From 1967 to 1984, 93 hospitals were involved in 43 mergers. After 1984 the average market share of the two largest hospitals in each Health Region increased by more than 10% in four years' time (see Table 5.3). During the last decade, the Dutch government actively supported the consolidation of hospitals. Hospital mergers were considered a useful vehicle to reduce the existing excess capacity.

Hospital mergers could be defended as promoting technical efficiency. However, neither American (Cowing et al. 1983) nor Dutch (Van Aert 1977) empirical research has found substantial economies of scale in the production of hospital services. The general conclusion is that economies of scale may exist for small hospitals but that moderate- and large-size hospitals can generally be characterized by constant returns to scale. Thus proceeding consolidations

15 The Herfindahl-Hirschman Index is the sum of the squared market shares of all firms in the same relevant product and geographic market. The index varies from approximately zero in an atomistic market to 10,000 in a pure monopoly. An index of 1,800 corresponds to a market with about six equally sized firms.

16 For the time being, this assumption is appropriate for the present Dutch hospital market, because there are little or no substitutes for their services available outside the hospital. In the US a more differentiated product definition might be necessary, since several hospital services are also provided by a rapidly growing number of ambulatory surgery centers, primary care diagnostic centers, and home health care agencies (Klingensmith 1988).

17 Health regions were defined for planning purposes in the Dutch Hospital Facilities Act. They were originally determined by minimizing the patient flow across their boundaries. The applied methodology corresponds to the Elzinga and Hogarty (1973) approach, by which a market is expanded until the LIFO (little in from outside) and LOFI (little out from inside) statistics exceed some critical cutoff level (usually 75 or 90 percent). Although the Elzinga-Hogarty approach is not free from criticism (Werden 1989), this might be largely met by adjusting patient flow statistics for patients who leave the region only for specialized treatment at tertiary care hospitals (Baker 1988, p. 143-145). When applied to the Dutch Health Regions, the average 1986 LIFO and LOFI percentages, adjusted for the share of academic hospitals, amount to 91.6 and 90.8 percent respectively (standard deviations being 4.5 and 4.2 percent) (SIG 1988).

Table 5.3 **Hospital market concentration in the Netherlands in 1984 and 1988**[a]

No.	Health region (Main city)	Number of hospitals		Market share top two (C2-index)		Herfindahl index (HHI)		Change in HHI 1984-88
		1984	1988	1984	1988	1984	1988	
01	Groningen	10	9	41.0	42.4	1390	1470	80
02	Leeuwarden	8	6	34.0	55.3	1430	2280	850
03	Zwolle	6	6	60.9	58.6	2320	2230	−90
04	Enschede	6	5	51.7	52.2	2160	2250	90
05	Apeldoorn	5	3	45.3	79.8	2030	3620	1590
06	Arnhem	11	10	26.9	37.0	1000	1220	220
07	Nijmegen	3	3	89.1	89.6	4180	4260	80
08	Amersfoort	5	5	59.3	60.8	2530	2620	90
09	Utrecht[b]	11	10	32.8	37.2	1140	1230	90
10	Hilversum[b]	5	3	55.9	83.6	2370	3790	1420
11	Alkmaar[b]	4	3	67.7	81.3	3160	3830	670
12	Haarlem[b]	8	8	39.3	38.8	1440	1430	−10
13	Amsterdam[b]	16	13	29.1	33.7	920	1070	150
14	Leyden[b]	4	4	73.7	72.6	3350	3250	−100
15	The Hague[b]	8	8	41.8	41.1	1530	1520	−10
16	Gouda[b]	2	2	100.0	100.0	5250	5150	−100
17	Rotterdam[b]	12	12	31.1	31.3	1030	1050	20
18	Dordrecht[b]	6	4	57.1	63.3	2170	2760	590
19	Middelburg	7	5	49.0	65.8	1820	2660	840
20	Breda	7	6	45.6	48.8	1730	1990	260
21	Tilburg	3	3	84.7	85.8	3880	4120	240
22	Den Bosch	6	6	50.1	48.9	2050	2010	−40
23	Eindhoven	6	5	47.0	48.0	1910	2100	190
24	Roermond	4	4	62.8	65.2	2720	2770	50
25	Maastricht	6	5	52.4	56.1	2080	2410	330
Mean		6.8	5.9	53.1	59.1	2220	2520	300
SD		3.2	2.9	18.5	18.9	1040	1090	444

a Both general and academic hospitals are included. Market concentration is measured by annual hospital admissions.
b Health regions in the Randstad area.
Source: Schut (1989).

of Dutch hospitals seems to be at odds with the objectives of the health care reform.

The observation that the HHI statistics exceed 1800 in more than 70% of the Dutch hospital markets, indicates a limited potential for workable competition among hospitals. Nevertheless, the conditions for competition are still considerably better than in California, as illustrated in Table 5.4.[18]

18 Both hospital area definitions are constructed for planning of health facilities. Comparison is justified because each market definition aims to delineate coherent hospital service areas that include the majority of buyers and sellers.

Table 5.4 **Comparison of the Herfindahl-Hirschman Indices of Dutch Health regions in 1988 and Californian Health Facilities Planning Areas in 1980**

Herfindahl index (HHI)	Dutch Health regions		Californian HCPAs	
	number	percentage	number	percentage
< 1000	0	0.0	2	1.5
1000 - 1799	7	28.0	18	13.2
1800 - 2499	7	28.0	7	5.1
2500 - 4999	10	40.0	41	30.1
5000 - 9999	1	4.0	24	17.6
10,000	0	0.0	44	32.4
Total	25	100.0	136	100.0

Sources: Schramm and Renn (1984); Schut (1989).

While (natural) monopolies are a common feature of the Californian hospital industry, given that nearly one third of the Health Facilities Planning Areas (HFPAs) have an index of 10,000, they are non-existent in the Dutch hospital industry.

This comparison is particularly interesting because the proposed reform of the Dutch hospital market corresponds to a considerable degree to the market-oriented policy for hospitals in California. In June 1982 the Californian legislature passed a law permitting private insurers to contract selectively with hospitals. The legislation paved the way for Preferred Provider Organizations, which channel beneficiaries to selected providers, in exchange for a premium discount or other amenities. In less than five years, PPOs acquired a 25% share of the Californian health insurance market. The first results of empirical research into the effects of the Californian experiment indicate that the selective contracting provision had led to substantial price competition among hospitals, resulting in hospital cost containment relative to the previous period and the rest of the United States (Robinson and Luft 1988, Zwanziger and Melnick 1988). Furthermore, this effect was found to be positively related to the number of competing hospitals in an area. The cost-reducing effect of the Californian market-oriented program appears to be particularly strong in areas where hospitals have more than ten neighbors within 24 km. This observation might be an important indication of the effectiveness of the Dutch reforms, since it applies to more than 40% of Dutch hospitals. As nearly all of these hospitals are located in the Randstad area, the prospects for workable competition in the Dutch hospital market clearly are most favorable in this region. However, the results of the Californian experience should be interpreted with caution. The observed price competition among hospitals might well be only a short term response to the change in legislation. A case

study of a Californian metropolitan city shows that the selective contracting by insurers induced a dramatic change in the structure of a local hospital market (Starkweather and Carman 1987). Through affiliation and merger, hospitals tried to remain in control of the market-place. In a few years' time the original 14 independent hospitals had grouped themselves into four hospital systems. The horizontal mergers provided the critical mass for a following wave of vertical integrations to control the supply to the hospital. Eventually, the former highly competitive market was transformed into a differentiated oligopoly in which price competition played a minor role.

In contrast to the Netherlands, US antitrust laws provide rather powerful policy instruments to prevent mergers. In the last decade, competitive pressure on American hospitals has increased dramatically, due to the more and more 'prudent buying' by health insurers, HMOs, PPOs and the federal government (which introduced a prospective payment system for Medicare beneficiaries). The growing competitive pressure induced a fourfold increase in the number of acquisitions or consolidations, rising to roughly two hundred a year in the early 1980s (Baker 1988). According to the American Hospital Association 79 hospital mergers occurred between 1982 and 1986. At the same time, antitrust authorities made clear that hospital mergers would be reviewed within the same antitrust framework that applies to any acquisition. In fact, hospital mergers soon became the focus of the Federal Trade Commission and Justice Department merger activities.[19] In several cases these activities resulted in the divestiture of the challenged hospital merger. Since 1988, for the first time also consolidations of nonprofit hospitals have been challenged. Although the evidence is not quite clear, the nonprofit status of merging hospitals does not appear to impose a significant restriction on the antitrust review of their actions (Baker 1988, p. 112-113).

At present, the Dutch government has no policy instruments to counteract a further consolidation of the Dutch hospital industry, which will be induced by the reforms. Besides, the opportunities for demand substitution outside the hospital are still very small. The lack of sufficient outpatient care substitutes adds to the potential anticompetitive impact of a hospital merger. However, this may turn out to be primarily a short-term problem, because the health care reform will encourage effective demand substitution in several ways. First, the proposed deregulation of the Hospital Facilities Act will create room for the establishment of free-standing outpatient clinics (which at present are

19 In general, antitrust authorities have not been very successful in challenging mergers, particularly not in areas beset with foreign competition. The apparent success in challenging hospital mergers stems from the structural characteristics of hospital markets. Compared to most manufacturing industries, economically meaningful hospital markets are easier to isolate, because of their relatively easy-to-define products and geographic boundaries.

legally tied to a hospital). Second, the choice of the most cost-effective type of service is prompted by incorporating nearly all potential substitutes for hospital services in a single comprehensive benefit package.
Another structural feature of hospital markets which limits competition is the existence of considerable entry barriers. Until now, entry to the Dutch hospital market is blocked by the Hospital Facilities Act. However, when the proposed deregulation is effectuated, entry will be much easier for most less specialized hospital services. For the more specialized clinical services entry will remain difficult, even apart from the remaining legal barriers. The technological requirements of highly specialized hospitals demand a planning and construction period of between four and nine years (Baker 1988, p. 154). So the period of entry will be too long to withhold hospitals from raising prices above competitive levels. Moreover, exit from the hospital market is very costly because investments cannot be liquidated without sustantial losses. The fact that entry does not mean a credible threat for many hospital services, implies that government should keep a sharp eye on collusion and abuse of dominant positions to keep competition workable.

5.5 Conclusion

The Dutch design of a competitive and equitable health care system is gradually leaving the drawing board. The actual implementation of the theoretical concepts is a very complicated process. The creation of the necessary conditions for workable competition in health care not only requires a reshape of the structure of the health care market, but also a dramatic change of conduct of all participants. On the one hand, the structural preconditions for a market-oriented health policy in the Netherlands may be relatively good as compared to other industrialized countries, because of the high population density and the large number of private institutions. On the other hand, the historically determined structure of the health care financing and delivery system, the long-standing tradition of anti-competitive self-regulation and of collective bargaining by government protected cartels of providers and insurers, put significant constraints on the possibility of workable competition.
The analysis of the Dutch health care market shows that if competition is to result in favorable performance, government should set appropriate rules of the game. At least, an effective antitrust policy is required to be able to counteract anticompetitive behavior and monopolization. For health care markets in particular Clark's statement seems to hold that 'to keep competition healthy requires the traditional eternal vigilance' (Clark 1955, p. 462).

Several countries are presently considering market oriented reforms of their health care systems. Because the potential success of a market-oriented health care reform crucially depends on the structural, behavioral and institutional features of the health care system, careful analysis of these conditions should precede a decision to implement such reforms. Eventually, the Dutch 'natural experiment' may provide a crucial test of the feasibility of workable competition in multiple-insurer health care systems.

6

Antitrust policy in Dutch health care: relevance of EU competition policy and US antitrust practice[1]

Summary

Dutch health care policy is gradually undergoing a radical shift from a planning-oriented towards a market-oriented approach. A fundamental restructuring of the health care financing system should bring about workable competition among providers and among health insurers. As the result of both government regulation and anticompetitive self-regulation strong cartels and dominant positions are deeply rooted in the present Dutch health care system. In order to be successful structural reforms should be supported by an effective antitrust policy. Until recently, Dutch antitrust policy was too lenient to fulfil this necessary condition. Since 1993 a number of changes in Dutch antitrust policy and legislation have been introduced or proposed which eventually have to result in an EU-style competition policy. For several reasons the stringent EU competition policy is likely to have limited relevance for the health care sector. The so far unique American experience in health care may provide some useful lessons for an effective enforcement of national antitrust policy in this area.

6.1 Introduction

For several years health care reform is a hot issue on the Dutch political agenda. Since the early 1970s Dutch government has been following a health planning strategy to control health care costs. Although the government gradually acquired some control over prices and productive capacity (but not over output), the results were disappointing. During the eighties the failure of

1 This chapter is largely based on Schut, Greenberg and Van de Ven (1991). A postscript is added to discuss relevant developments during the 1991-1994 period.

health planning became clear and it was generally felt that a reorientation of health policy was imperative. For this purpose in 1986 the so-called Dekker Committee was appointed that shortly thereafter recommended a radical change in health policy from a planning-oriented towards a market-oriented approach. The proposal implied a fundamental restructuring of the Dutch health care system. The new health care system should be built on two pillars: national health insurance and regulated competition. The objective of the health care reform is to improve efficiency by rewarding consumers for choosing efficient insurers and providers, rewarding insurers for contracting with efficient providers and engaging in managed care, and rewarding providers for an effective and efficient provision of care (see Chapters 2 and 5).

The essentials of the Dekker proposal were adopted by two successive coalition cabinets, covering the major part of the political spectrum. Despite its broad support the implementation of the health care reform proposal was anything but straightforward. One of the major problems that have to be solved is the development and enforcement of an effective antitrust policy in health care.[2] Given the historically determined structure of the health care industry and the long-standing tradition of anticompetitive government regulation and self-regulation, it is unlikely that the proposed structural reforms will be enough to induce the intended competition (see Chapter 5). As American experience indicates, antitrust policy can greatly enhance the opportunities for competition in health care. There is a serious doubt, however, that the current Dutch antitrust policy will be able to counteract the predictable anticompetitive behavior.

The purpose of this chapter is to examine the relevance of antitrust policy for the future Dutch health care system, using the more than fifteen years of American antitrust experience in this area. First, an inventory will be presented of the anticompetitive structural and behavioral ingredients of the present Dutch health care system. Next, we will discuss the shortcomings of the present Dutch antitrust policy and the potential impact of the European antitrust policy. In a following section we will focus on US antitrust experience in health care. After examining the rationale behind the application of antitrust policy in US health care, some major cases will be highlighted to illustrate the effects of antitrust enforcement on the performance of the health care system. In a conclusion, suggestions are offered to implement an effective

2 The American term 'antitrust' reflects the original preoccupation with economic power. Instead the common European term is competition policy because the main purpose is to improve competition rather than to combat 'bigness' or economic power as such. In this article both terms are used as synonyms.

antitrust policy in Dutch health care. Finally, a postscript is added to discuss relevant developments from 1991 until July 1994.

6.2 Anticompetitive regulation in the health care sector

During the twentieth century Dutch health care went through a transition from a competitive towards a regulated and cartelized system. The room for competition among medical professionals, among health care institutions and among health insurers has been gradually reduced by government regulation as well as self-regulation. One of the main objectives of the current health care reform proposal is to reverse this trend. Consequently, most of the present anticompetitive government regulation will be abolished, as is explained below. Another necessary condition for workable competition in health care is an effective policy to counteract the deeply rooted anticompetitive self-regulation. Here antitrust policy comes to the fore. In a following subsection it will be demonstrated that the abundance of formal and informal cartel arrangements and powerful trade associations make the task of the antitrust authorities far from easy. Next, it will be discussed that the objective of the health care reform is thwarted by the ongoing concentration in the health care sector. For a variety of reasons – such as promotion by the government, anticipation on the health care reform and expected efficiency gains – hospitals, home health care agencies and health insurers are merging or forming joint ventures. The continuing concentration in the health care not only requires a merger control policy but also a more consistent general health care policy.

6.2.1 Anticompetitive government regulation

In the post-war period government intervention in the health care sector steadily increased. Since the mid-seventies, comprehensive health planning was considered to be indispensable for cost containment and an appropriate allocation of health care resources. In practice it turned out to be impossible to fit comprehensive health planning in a pluralist health care system.[3] Despite the disappointing overall effect, some health planning efforts were regarded as successful. In particular the global hospital budgeting system resulted in a slowing down of the growth of hospital expenditures.

The proposed change from a planning-oriented toward a market-oriented health care system requires a considerable deregulation of the Dutch health

3 For an overview of health planning efforts in the Netherlands and for comparison with public sector health planning in the United States, see Kirkman-Liff et al. (1988).

care system. As depicted in Table 6.1, the health care reform should effectuate the withdrawal of a lot of anticompetitive regulation with respect to the medical profession, the hospital and the health insurance industry. Nevertheless, the government seems to be reluctant to abolish some powerful planning tools, primarily those related to the supply of physicians and hospital capacity. Here the confidence in market forces appears to be offset by the fear of supplier-induced demand.

Table 6.1 **Anticompetitive government regulation in Dutch health care (1990)**

	Prices	Output	Capacity	Market division	Entry
Physicians	legally binding uniform fees or capitation payments[b]		restrictions to the size of GP practices[a] restrictions to the number of approved specialist positions in hospitals[c]	referral system for sickness fund patients[c]	professional licensure[e] restricted entry to medical schools[e] GP practice location regulation[a]
Hospitals	per-diem rates derived from a negotiated budget according to legal guidelines[c]	negotiated output levels according to legal guidelines[c]	restricted number of licensed beds and approved specialist positions[c]	provincial plans for distribution of specialist positions[c]	permission required to built new facilities[c]
Sickness funds	legally determined income-related uniform premiums[c]	legally defined benefits package[c] obligation to conclude standard contracts with any willing provider in the territory[a]	prohibition to operate or to participate in health care institutions[c] restriction to sell other lines of insurance[d]	legal criteria for eligibility[c] legally restricted territories[a]	permission required to expand territory or to establish a new sickness fund[b]
Private health insurers	legally determined premiums for those eligible for WTZ-standard policies[c] mandatory pooling of WTZ-contributions[c]	legally determined policy conditions for WTZ-standard policies[c]	minimum capital requirements to safeguard solvency[e] required reserve to anticipate extra costs of ageing[a]	limited eligible population[c] some insurable benefits covered by the AWBZ[c]	minimum solvency requirements[e]

a Abolished in the 1991-1994 period.
b Attenuated or replaced by procompetitive regulation in the 1991-1994 period.
c Proposed to be abolished or attenuated or to be replaced by procompetitive regulation.
d Prospects unclear.
e To be retained.

6.2.2 Anticompetitive self-regulation

In the first health care reform plan, optimistically entitled 'Change assured', it was stated that 'the government is in favor of strengthening the role of market forces and self-regulation in the care sector, while reducing the extent of government regulation' (WVC 1988, p. 66). Self-regulation denotes all types of agreements by market participants to regulate conduct in order to influence market performance. The government seems to presume that enhancing self-regulation will be congruent to the objectives of the health care reform, particularly increasing the efficiency of health care delivery. However, it is far from evident that this presumption is correct. On the contrary, it may be expected that the cutback of legal protection of existing cartels and dominant positions in health care will provoke substitutional self-regulation. The institutionalization of collective negotiation of prices, incomes and budgets has generated powerful professional and insurance trade associations which could easily employ their skill to foreclose competition. Not occasionally, the present anticompetitive government regulation is nothing else but a legalization of previous self-regulation, compelled by interest groups. Where competition is not prohibited by government regulation, the gap is often filled by substantial anticompetitive self-regulation, which is summarized in Table 6.2. Hence, it is not surprising that physicians, hospitals and health insurers are anticipating on the proposed deregulation by strengthening their market positions. By reducing the capacity of post-graduate training programs for general practitioners and medical specialists, physicians are enhancing their future bargaining power. Paradoxically, the government still encourages the cutback of training capacity, thereby frustrating its own health care reform policy in advance. Physicians, hospitals, sickness funds and their trade associations all stress their preference for regional instead of local or individual agreements.

Without government interference, the health care system may eventually be dominated by regional or even national cartels of providers and insurers, leaving consumers no choice at all.

Apart from possible concerted practices in the future, the present anticompetitive self-regulation already forms a substantial threat to the feasibility of the intended competition (Table 6.2). Although some of these rules and arrangements may contribute to the public interest, others primarily serve the enlightened self-interest of the participants. Anyway, their value should also be judged by their compatibility with the objectives of the health care reform. The principle instrument to counteract current and future anticompetitive self-regulation is antitrust policy. An assessment of the present antitrust policy is necessary to appraise its capability to perform this task.

Table 6.2 **Anticompetitive self-regulation (1990)**

	Prices	Output	Capacity	Market division	Entry
Physicians	rule of conduct to comply with prices deemed acceptable by the medical association[a]	rule of conduct to refrain from advertising medical services[a]	cooperations should comply with guidelines of the medical association[a]	restrictive rules to adopt patients of physicians who practice in the same area[a] register of recognized medical specialties various types of market-sharing arrangements[b]	restricted entry to residency training programs for GPs and specialists restrictive rules for former assistants to practice in the area of their tutors[a]
Hospitals		agreements to coordinate the use of facilities and the transfer of patients	joint ventures to expand large capital	equipment interlocking hospital contracts with medical specialists	
Sickness funds		coordination of activities among sickness funds with adjacent or overlapping territories		gentleman's agreements about subscription of applicants by sickness funds with overlapping territories	
Private health insurers	agreements to sell uniform policies at the same price[c] market code on the calculation and adjustment of premiums[d]	agreements to sell uniform policies at the same terms[c] common standard policy conditions developed by the insurers' association joint purchasing cooperatives[d]		gentleman's agreements about advertising agreements between sickness funds and allied private insurers about the transfer of insureds	

a KNMG (Royal Dutch Medical Association), Code of conduct for physicians, second edition, Utrecht, 1984.
b For example, the formal market sharing arrangement of the National Association of Pathologists (NPAV) (see text)
c For example, more than 20 private health insurers offer similar policies for more than three decades (successively the ANPZ-policy and the Budget-policy).
d For example, in 1989 seven private health insurers established the purchasing cooperative GADANIS (in 1992 succeeded by MultiZorg) and in 1992 six sickness funds also established a joint purchasing organization, known as the Meandergroup.

6.3 Concentrations in the health care sector

Another serious threat for the realization of a competitive health care market is the accelerating concentration in the health care sector. Ever since the second world war a gradual concentration is going on in both the hospital and the health insurance industry. The driving force behind this concentration process was twofold. First, concentration was motivated by efficiency and quality considerations. Second, since the early seventies the government pursued a regionalized health care planning policy and accordingly encouraged a regional clustering of hospitals and sickness funds.

The health care reform proposal provided a new impulse to the concentration process. Particularly among sickness funds mergers were a typical reaction to the threat to loose their present regional monopolies. From 1987 to 1990 nine mergers took place, involving 19 sickness funds, so that the number of independent sickness funds reduced from 46 to 36. Three more mergers are announced by another eight sickness funds, while two groups of six and two sickness funds are planning to merge with their allied private health insurers.[4]

The majority of the sickness funds had no competitor in their working area, which implied that they would have a regional market share of about 60% after the health care reform (because at present about 60% of the Dutch population is compulsory insured with a sickness fund). Since most of the mergers are between sickness funds with adjacent working areas, their already dominant position will be strengthened even further. Private health insurers are generally involved in more lines of insurance and therefore they seem to prefer joint ventures to mergers. In 1989, two alliances were formed by eleven of the largest private health insurers, accounting for about half of the market. Notwithstanding their general preference for joint ventures, some private insurers, particularly those with traditional ties to the sickness funds, are trying to merge with sickness funds. Moreover, in 1990 the three largest for-profit multiple-line insurance companies announced to examine an integration of their health insurance activities, but this investigation was terminated without any result at the end of the year. Because the regional market share of private health insurers is generally rather low, joint ventures and mergers are necessary to develop enough countervailing power.

By contrast, health planning by the government still is the main impetus for concentrations in the hospital sector. In pursuit to reduce excess hospital capacity, the government actively encourages hospital mergers. The success of this government policy is demonstrated by a steady decline in the total number

4 A full integration of sickness funds and private insurers will be impossible until the legal distinction between the two types of insurance is abolished.

of hospitals. Since 1984 the average market share of the two largest hospitals in each legally defined 'Health region' increased by more than 10% in four years' time to about 60% in 1988 (see Chapter 5). Compared to other industries the hospital sector is highly concentrated. Yet the government persists in promoting hospital mergers. Sometimes provincial governments, which are responsible for the implementation of global hospital planning guidelines by the national government, are even more inclined to stimulate hospital concentration. For example, the government of the province of South-Holland, accounting for about one fifth of total Dutch population, not only proposes several hospital mergers but also a clustering of all provincial hospitals into a limited number of 'conglomerates'.

The shift from a planning-oriented towards a market-oriented health care policy requires a reconsideration of the government's attitude towards concentration. The main reason why the government tenaciously fostered hospital mergers seems to be its presumption that large scale hospitals will operate more efficiently, though it may also stem from the consideration that it is politically the most promising strategy to achieve capacity reduction targets. The economies of scale argument does not seem to hold because the expected improvement of technical efficiency is not corroborated by empirical evidence.[5] But even if hospital mergers would indeed yield technical efficiency gains, the government should balance these benefits against the potential costs of reducing competition. In a market-oriented health care environment, the government should judge concentrations not only by the potential beneficial effects on technical efficiency (economies of scale) but also by the possible negative effects on allocative efficiency (monopoly pricing) and X-efficiency (less incentives to lower costs). Moreover, in a market-oriented system the market mechanism itself may be a sufficient stimulus for concentrations that are enhancing technical efficiency.

Another illustrative example of the government's narrow focus on technical efficiency is the recent government support to regional mergers of publicly financed home care organizations.[6] The pro-merger attitude of the government is based on the findings of a study group that the integration of all home care activities into a single organization, serving 250,000 to 400,000 people, could result in a 12% reduction of overhead costs (WVC 1990b). To encourage mergers the study group recommends to reserve the provision of home care

5 American as well as Dutch empirical studies find that some economies of scale may exist for small hospitals but that medium and large hospitals are typically characterized by constant returns to scale (Cowing et al. 1983, Van Aert 1977).

6 In June 1990, the national trade associations of the collectively financed family care organizations (gezinsverzorging) and home health care organizations (kruiswerk) merged into the National Association for Home Care (LVT).

only to approved institutions that should have a certain minimum scale and should be capable to provide the whole range of home care services. Although the study group frequently refers to the proposed health care reform, no attention is paid to the potential negative effects of creating regional monopolies on innovation, prices and quality of home health care. Ironically, the report itself indicates the possible impact of competition by pointing out that the rapidly growing number of private home care organizations charge substantially lower prices, which, according to an accompanying analysis of a consultancy firm, 'suggests a high degree of efficiency.'[7] Although the study group notes that the price differences should be interpreted with caution because of a possible divergence in quality and terms of employment, no inferences were made to the desirability of concentration.

The present governmental support to concentrations in the health care sector may well undermine the potential success of health care reform. Apart from the need of a more consistent health care policy, a merger control regulation is required providing policy instruments to prevent or to counteract unwarranted concentrations.

6.4 Background and assessment of Dutch antitrust policy

Dutch antitrust policy is an offspring of the economic depression of the 1930s. Industrial overcapacity, caused by a collapse of effective demand, induced vigorous price battles among firms. The resulting shake-out was considered as an unnecessary loss of capital stock because also relative efficient firms were dispelled from the market. Hence, in 1935 the Entrepreneurs Agreements Act was enacted, which enabled the government to diminish 'disastrous' competition by declaring agreements between some firms legally binding for all firms in the industry. On the other hand, the government was also empowered to dissolve agreements which were considered to be in conflict with the public interest. Accordingly, the act was designed to provide policy instruments to offset not only too much but also too little competition, although until the second world war only the former provision was actually applied. During the second world war, the original act was replaced by the Cartel Decree of 1941, which had essentially the same purport. The after war period was initially characterized by absolute scarcity. Distribution and pricing of commodities had to be strictly regulated by the government and competition policy played a minor role.

7 The relevance of competition policy is stressed by the observation of the consultancy firm that the competing private home care organizations are trying to curb competition 'by tying arrangements, exclusive dealing contracts with insurers, pricing agreements and take-overs' (WVC 1990b, appendix F, supplement p. 59).

During the 1950s government intervention gradually decreased due to the improvement of the economic situation. Consequently, a need was felt to renew the outdated Cartel Decree, which led to the adoption of the Economic Competition Act in 1958.[8] Despite the new regulation, the train of thought remained basically the same. On the one hand, the Economic Competition Act contains provisions that enable the government to declare specific or certain types of restrictive agreements legally unbinding if they are in conflict with public interest. Furthermore, the Act provides some instruments to counteract abuse of dominant positions. On the other hand, the Act still offers the opportunity to declare restrictive agreements legally binding for a whole industry if required by public interest. However, the fact that the economy was transformed into a sellers market implied a shift in emphasis of policy enforcement towards a control of anticompetitive agreements.

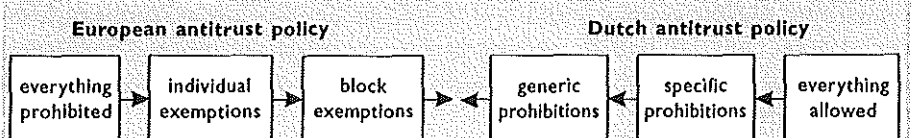
The 1970s were marked by stagflation which induced substantial government interference with industrial activity. On the one hand government tried to counteract stagnation of economic growth by means of industrial policy to support domestic firms. On the other hand government tried to suppress the persistently high inflation rates by price regulation. Competition policy was virtually eclipsed by these opposite government policies. Hence, the opportunities the Economic Competition Act offers to prohibit anti-competitive conduct were sparingly used. Nearly thirty years the Economic Competition Act led an almost sleeping existence. From 1959 to 1986 no single restrictive agreement was prohibited by law and only five actual or provisional decisions were made on account of abuse of dominant positions (VerLoren van Themaat 1988). During that period the only formal measure against restrictive agreements was the so-called 'generic' prohibition of both collective resale price maintenance and individual resale price maintenance for several durables in 1964.

During the eighties the instigation of a deregulation of the national economy and the accelerating European economic integration process incited a revaluation of national competition policy. The lenient Dutch competition policy was increasingly criticized and the Netherlands was even depicted as the 'cartel paradise' of Europe (De Jong 1990). In 1987 a 'Plan of Action' was formulated by the government to revive the enforcement of the Economic Competition Act. A first sign of the change in climate was an increase in the number of formal procedures. From 1986 to 1990 several restrictive agreements were prohibited, most of which were local arrangements that would escape EU antitrust policy enforcement.[9] In addition, an important policy change was proposed. The usual practice (known as the 'abuse principle') was to allow all restrictive agreements – with the notable exception of a

8 For a detailed description and analysis of Dutch antitrust policy from 1958 to 1990, see Uitermark (1990).

prohibition of collective resale price maintenance – unless they can be proven to harm public interest (the same provision holds for dominant positions). Instead, the Ministry of Economic Affairs proposed to forbid in advance certain types of restrictive agreements that are likely to be in conflict with public interest. Accordingly, the common case-by-case judgment of nearly all restrictive agreements should be partly replaced by generic prohibitions of 'highly' restrictive agreements that concern horizontal price fixing, market sharing and entrance foreclosure. As a first step the Ministry of Economic Affairs (the principal antitrust authority) proposed a generic prohibition of horizontal price agreements, accounting for 37% of all 293 registered formal cartel agreements in 1989 (EZ 1989b).[10] A generic prohibition not only applies to formal agreements but to all concerted practices with the same purport. Since specific prohibitions are confined to formal, registered restrictive agreements, adoption of generic prohibitions would imply a considerable reinforcement of competition policy. Due to the generic prohibitions, the very lenient Dutch competition policy would have to become more European, as illustrated by Figure 6.1 (European competition policy will be discussed below).

Figure 6.1 Possible convergence of European and Dutch competition policy



Source: Evenhuis (1990).

9 From 1986 to 1990 the following four restrictive agreements were either wholly or partly declared non-binding under article 19(1) of the Economic Competition Act: Afdelingsreglement BOVAG (Nederlandse Staatscourant 134, July 21 1986), Regeling Zeezandwinning NVBP (Nederlandse Staatscourant 228, November 25 1986), Branchebeschermingsregeling Winkelcentrum 'De Passage' te Breukelen (Nederlandse Staatscourant 9, January 14 1987), and Aanbestedingsregeling Verwarmingsinstallateurs VNI/CBVI (Nederlandse Staatscourant 37, February 19 1989). In addition, after the announcement of a prohibition under article 19(1) three restrictive agreements were voluntary terminated, including a from 1940 dating horizontal price fixing agreement among four wholesale dealers in pharmaceuticals. Furthermore, tender arrangements in the construction industry were prohibited as a group under article 10 of the Economic Competition Act (Staatsblad 676, December 29 1986).

10 Any legally binding restrictive agreement must be registered with the Ministry of Economic Affairs within one month after the agreement has taken effect. These agreements are enlisted in a classified Cartel Register. Since penalties for not meeting the required registration are small and still never applied, it is doubted that the Cartel Register provides a reliable survey of the existing formal cartel agreements. Indeed, complaints often reveal that restrictive agreements have not been notified. Therefore, the 1987 Plan of Action promises more effective detection procedures and a more rigorous prosecution policy to comply with the notification requirement.

However, in spite of the prohibition of 'heavy' restrictive agreements, serious deficiencies remained. First, competition policy is still insufficiently apt to counteract abuse of market power. Although the Economic Competition Act provides for some measures against abuse of dominant market positions, actual policy enforcement is nearly invisible. Complaints about abuse of dominant positions were usually either dismissed or settled. Due to the lack of formal procedures, there are hardly any guidelines or criteria to establish the presence of a dominant position and, if so, whether it is employed against the public interest. Besides, remedial measures against abuse of dominant positions are weak since the Economic Competition Act offers no opportunities to claim damages or to impose fines. Another major deficiency is the absence of any merger control regulation. Dutch antitrust law has no provisions to forestall mergers or takeovers if deemed to be contrary to the public interest. In defence of the lack of a national concentrations control policy it is often argued that there is little sense in making mergers in small countries difficult, because even a national company controlling the entire domestic market might still be too small to be able to compete internationally. In general this argument is not valid, however, because the effect of concentrations depends on the nature and extent of the relevant product and geographical markets. Nevertheless, the Ministry of Economic Affairs maintained that merger control could and should be handled on a European level (EZ 1989a). But, as will be argued below, the recently adopted European mergers regulation certainly does not remove the necessity of a national merger control policy.[11]

6.5 Dutch antitrust experience in health care

Apart from the pharmaceutical industry, Dutch antitrust policy has virtually no record in the health care sector.[12] There are several reasons for the negligence of health care in antitrust policy. First, for a long period

11 In 1977 the Social and Economic Council (SER 1977), the major consultative body on economic affairs, advocated the adoption of a national mergers regulation, but the recommendation was not followed by the government. In 1989 the government announced to make a separate mergers regulation for the press. Because the Constitution leaves no room for a qualitative judgment of press mergers, the preliminary stand of the government is to prohibit all mergers exceeding a certain joint market share, presumably 33.3 percent as proposed by two consultative bodies (Nederlandse Staatscourant 70, April 9 1990).

12 Because the health care reform is concerned with a restructuring of health care delivery and financing, the pharmaceutical industry will be left out of consideration. Besides, pharmaceutical firms compete on an international rather than on a national or local level, so antitrust problems are different. Of course, this argument does not hold for those involved in the distribution of pharmaceuticals, such as wholesalers and pharmacists.

government planning rather than competition was considered to be the appropriate form of health care organization. Consequently, health care providers, public health insurers, hospitals and health care institutions were all heavily regulated by the government. On the other hand, the private health insurance market is highly competitive, resulting in an ongoing process of premium differentiation and risk segmentation. The nature of competition among private health insurers was regarded as detrimental rather than beneficial to public interest, so there was little reason for a strict antitrust policy.[13] A final reason for the absence of antitrust policy in health care is that until 1987 the so-called learned (or liberal) professions were not included under the Economic Competition Act. During the previous decade professional incomes were subject to government regulation under various price control statutes. In accordance with the general policy of deregulation governmental interference with professional earnings was substantially reduced by means of the Professional Incomes Act (WIVB) of 1987. At the same time it was recognized that together with the deregulation of their incomes, the learned professions should be brought under the scrutiny of the antitrust law.[14] The Professional Incomes Act still empowered the government to regulate professional incomes but only if market forces were insufficient to bring about 'acceptable' income levels, which was considered to be relevant in the case of medical specialists. However, in response to an agreement on the earnings of medical specialists which was concluded in 1989 by the associations of specialists, health insurers and hospitals, the government decided to repeal the act. Still, government has an important say in the price setting of professional health services. Because price competition among health care providers is virtually eliminated by the Health Care Prices Act (WTG), the scope for antitrust policy in this area is limited. Nevertheless, since the Economic Competition Act is applicable to the medical profession some complaints were issued and investigated.[15] The

13 Instead it was proposed several times to apply the Economic Competition Act to impose general binding minimum and maximum premiums to curb the continuing premium differentiation.

14 Section 11 of the Professional Incomes Act (Staatsblad 1987, 186) specifies which professionals are incorporated in the Economic Competition Act. The following health care professionals are enlisted: general practitioners, medical specialists, dentists, dental specialists, pharmacists, physiotherapists, Cesar/Mensendieck remedial therapists, speech therapists and midwives.

15 In 1989 the Ministry of Economic Affairs (EZ 1989b) reported complaints about a supposed agreement by ophthalmologists on out-of-pocket payments by sickness fund insureds, about a market sharing agreement by the association of pathologists (NPAV), about a (wrongly) supposed boycott of a pharmacist by local family physicians for not joining an integrated information network. In the subsequent year complaints were filed by assistant surgeons against entry restrictions of the association of surgeons and by an association of audiologists against an exclusive dealing contract between several insurers and a limited number of audiologists (EZ 1990).

national association of laboratory-keeping dental technicians (VLHT) promised to withdraw a horizontal price agreement after being informed by the Ministry of Economic Affairs that the price cartel was not held to be either economically imperative or beneficial for public health. The awareness of antitrust requirements among providers is very low due to the novelty of the applicability of antitrust rules to the medical profession and the general unobtrusiveness of antitrust enforcement. Thus it is likely that only a small part of all restrictive agreements among providers are actually notified. Hence, a stricter antitrust enforcement should be preceded by the provision of more information about the requirements and application of antitrust policy.

6.6 Relevance of European competition policy for Dutch health care

With regard to restrictive practices of internationally operating domestic firms, the weakness of Dutch competition policy may not be much of a problem because their conduct is also monitored by the far more effective competition policy of the European Union (EU). For health care, which is delivered and financed primarily on a local or regional market level, the relevance of European antitrust rules is less straightforward.

In the case Wilhelm vs. Bundeskartellamt the European Court of Justice established the principle of concurrent jurisdiction of national and European antitrust authorities, holding that parallel application of national and Community law is possible as long as the application of national law does not 'prejudice the full and uniform application of Community law or the effects of measures taken or to be taken to implement it.'[16]

However, Community and national antitrust law consider restrictive practices from different points of view. Whereas Dutch antitrust law judges them by their concurrence with public interest, European antitrust provisions appraise them at their effect on trade between Member States. The EU rules on competition are set out in Articles 85 to 94 of the Treaty of Rome of 1957 (EEC Treaty), the Community's constitutional document.[17] The two basic provisions are Article 85, prohibiting agreements between undertakings, decisions by associations of undertakings or concerted practices which have an anticompetitive objective or effect, and Article 86, prohibiting the abuse by one or more undertakings of a dominant position. Anticompetitive

16 Walt Wilhelm & Others vs. Bundeskartellamt, Case 14/68 (1969) ECR 1.

17 Articles 85 to 90 are dealing with rules applying to private undertakings, Article 91 with intra-Community dumping and Articles 92 to 94 with State aid. For a comprehensive overview of EU competition law, see Van Bael and Bellis (1987).

government regulation is outside the scope of the antitrust provisions because their application is restricted to undertakings.[18] Consequently, agreements or practices of undertakings which are mandated by a government authority also escape the scrutiny of Article 85.[19] On the other hand, EU Member States should refrain from all measures that could jeopardize the objectives of the Treaty (Article 5) and in particular the objective to institute a system in which competition is not distorted (Article 3f).[20] However, the fact that in all EU Member States potential competition in health care is thwarted by government regulation, is not considered to be in conflict with the objectives of the EEC Treaty.

Restrictive agreements, concerted practices and abuse of dominant positions are only caught by the prohibitions contained in Articles 85 and 86 if they may affect trade between Member States. The *interstate trade criterion* demarcates the responsibilities of the European and national antitrust authorities. Where the *effects* of anticompetitive conduct are confined to the territory of a single Member State, the European antitrust provisions will not apply. Therefore, local and regional agreements among providers and among hospitals or other health care institutions could be outside the scope of EU competition law. Nevertheless, as indicated by case-law, purely national arrangements may fall under jurisdiction of the European Commission if they could close the national market for actual or potential competitors from other Member States.[21] Hence, national cartels of providers and health insurers may

18 The term 'undertaking' is nowhere defined in the Treaty, but from the case-law it follows that virtually every natural or legal person participating in the economic process will qualify as an undertaking (Van Bael and Bellis, 1987, pp. 21-2). Moreover, Article 90 makes it clear that the antitrust provisions apply also to public undertakings and to undertakings to which Member States grant special or exclusive rights, though the application should not obstruct the performance of the particular tasks assigned to undertakings entrusted with the operation of services of general economic interest or having the character of a revenue producing monopoly.

19 However, lesser forms of government involvement like authorization, encouragement, approval or tolerance are not enough to take an agreement outside the ambit of Article 85 but could at best justify a plea in mitigation (Van Bael and Bellis, 1987, p. 31).

20 In two cases the European Court of Justice decided the legalization by a national government of restrictive agreements between undertakings to be incompatible with Article 5 in connection with Articles 3f and 85 of the EEC Treaty: Vereniging van Vlaamse Reisbureaus vs. Sociale Dienst van de plaatselijke overheidsdiensten, Case 311/85, (1987) ECR 290, and Bureau National Interprofessionel du Cognac (BNIC) vs. Yves Aubert, Case 136/86, (1987) ECR 352.

21 Vereniging van Cementhandelaren vs. Commission, Case 8/72, (1972) ECR 977; Papiers Peints de Belgique vs. Commission, Case 73/74, (1975), ECR 1491; Remia and Others vs. Commission, Case 42/84 (1985). In Belasco SA vs. Commission, Case 246/86, (1989), a national cartel agreement of seven Belgian producers of roofing felt was judged by the Court to violate Article 85 of the Treaty, because their joint market share of about 60 percent was considered to make the cartel strong enough to deter foreign competition.

not escape European antitrust enforcement. Moreover, the European Commission's decision condemning a premium recommendation by a German association of fire insurers indicates that its jurisdiction may even extend to local arrangements from the moment one of the participants is a branch office of an EU-based company outside the Member State concerned.[22] The German fire insurance Court judgment could imply that local arrangements among health insurers may be subject to European antitrust scrutiny, since several Dutch health insurers are branch offices of insurance companies in other Member States. On the other hand, during the last 30 years existing agreements among more than 20 private health insurers to offer uniform insurance policies were never challenged by the European Commission. Moreover, according to the 1990 health care reform proposal, the mandated basic benefit package should be part of the social security system.[23] In addition, the recently adopted Third Non-Life Insurance Directive (92/49 EEC, Article 54) stipulates that each Member State is allowed to regulate the terms of private health insurance contracts if these contracts can (partially) replace social insurance cover. This implies that national regulations will apply to all companies writing health insurance in the Netherlands, whether Dutch or foreign. The fact that health insurance will not be completely incorporated in the internal European insurance market reduces the relevance of EU competition law for this industry. Thus, for the time being, it seems plausible that anticompetitive conduct by health insurers will primarily belong to the domain of national antitrust policy.

In addition to the interstate trade requirement, the European Court of Justice established a *de minimis* rule requiring that restrictive agreements or concerted practices should be prohibited by Article 85(1) only if they have an 'appreciable' effect on competition and interstate trade.[24] The European Commission has given some guidance how the concept 'appreciable' should be interpreted by setting quantitative criteria for market share and turnover.[25] In general, restrictive agreements or practices will not be prohibited by Article 85(1) if the goods or services involved do not present more than 5% of the relevant market and the aggregate annual turnover of the participating undertakings do not exceed 200 million ECU (about US$ 260 million). The

22 Fire Insurance, OJ (1985) L 35/20. Upheld by the European Court of Justice in Verband der Sachversicherer (VDS) vs. Commission, Case 45/85 (1987), ECR 40.

23 According to the 1990 health care reform proposal (WVC 1990a) the benefits package of the compulsory health insurance should cover about 96 percent of total health care expenditures, leaving very small room for voluntary supplementary health insurance.

24 Franz Völk vs. Etablissements J. Vervaeke, Case 5/69, (1969) ECR 295.

25 Commission Notice on Agreements, Decisions and Concerted Practices of Minor Importance which do not fall under Article 85(1) of the Treaty, OJ (1986) C 231/2.

relevance of the *de minimis* rule for local or regional cartel arrangements in the health care sector depends on the definition of the relevant product and geographical market. Although the Commission provides some criteria for market definition, their application to the health care industry is anything but straightforward.[26] For example, the application of American antitrust laws to the hospital industry demonstrates that defining relevant product and geographical markets could be very troublesome because of the multiproduct nature of hospital services (Klingensmith 1988, Morrisey et al. 1989). Because the annual turnover of the average 400-bed Dutch general hospital amounts to about 30 to 40 million ECU, restrictive agreements among hospitals will often meet the second requirement to be considered of minor importance.

As counterpart to the *de minimis* requirement of Article 85, Article 86 only prohibits abuse of dominant positions if the allegedly abusive practices cover a *substantial part* of the Common Market. So far, case-law indicates that the whole territory of economically medium-sized Member States (e.g. the Netherlands) and significant parts of economically large Member States (e.g. Germany) are considered the smallest areas that comprise a substantial part of the Common Market.[27] Hence, it is unlikely that Article 86 will apply to regional or local dominant positions of hospitals, health insurers or professional associations in the future Dutch health care system. A possible exception is the market for highly specialized clinical services in which a single hospital or partnership of medical specialists could be a countries' only supplier.

In December 1989 the Council of Ministers adopted a regulation concerning the control of concentrations on the Common market.[28] The new mergers regulation enables the European Commission to examine and prevent large scale mergers and acquisitions that could damage competition in the single market. However, the scope of the mergers regulation is very limited because it is confined to concentrations of firms with a joint turnover of at least 5 billion ECU, as long as 0.25 billion ECU is obtained inside the Community.

26 In the Notice on agreements of minor importance the Commission specifies the required market definitions as follows. The relevant product market includes besides the contract products any other products which are identical or equivalent to them. Whether or not the latter is the case must be judged from the vantage point of the user, normally considering product characteristics, price and intended use. The relevant geographical market is the area within the Community in which the agreement produces its effect. Those parts of the Common Market where the contract products are not traded or only in limited quantities or at irregular interval, should be disregarded.

27 In Suiker Unie and Others vs. Commission (1975, ECR 1663) the Court considered the southern part of Germany to satisfy the substantiality requirement.

28 Regulation 4064/89, OJ (1989) L 395. The mergers regulation has taken effect on September 21, 1990.

Moreover, the regulation exempts predominantly national mergers, involving firms which realize more than two-thirds of their turnover in the same Member State. These high thresholds imply that the European merger control policy will not apply to the health care industry, with a possible exception of large multinational firms producing pharmaceuticals and medical technology. In fact, the mergers regulation could even increase opportunities for mergers and acquisitions in health care, because control over concentrations beneath the determined level is no longer placed under authority of the European Commission.[29]

Restrictive agreements may also violate other principles of the EEC Treaty, particularly the freedom of establishment and offering of services. Both principles were applied to the medical profession through several directives that provide for mutual recognition of diplomas, certificates and other evidence of formal qualifications.[30] Provisions relating to the offering of services contain exemptions for physicians of other Member States from requirements to join professional associations or to register with public social security bodies. These directives facilitate entry to the medical profession from other Member States but do not remove barriers to entry as such. The European insurance industry is also subjected to EEC Directives.[31] However, as mentioned before, the Third Non-Life Insurance Directive may exempt health insurance from the freedom of services requirements.

Given the problem of delineating the Commission's jurisdiction it is hard to predict to what extent the Dutch health care sector will be subject to European antitrust law. Notwithstanding this uncertainty, the above considerations indicate that impact of European antitrust provisions on the performance of the national health care delivery and finance system may be small. In most cases, mergers, acquisitions and abuse of dominant positions

29 By abrogating Regulation 17 insofar as it applies to concentrations, Article 22 of the mergers regulation deprives the European Commission from the means to challenge mergers and acquisitions under Articles 85 and 86. In Europemballage and Continental Can vs. Commission (Case 6/72, 1973 ECR 215) the Court upheld the view of the Commission that concentrations may constitute an abuse of a dominant position prohibited by Article 86. Although the Continental Can case was not followed by any formal decision prohibiting mergers under Article 86, the Commission frequently informally intervened to monitor or to prevent mergers. Contrary to the European Commission national antitrust authorities and national courts are still entitled to apply Article 86 to merger cases.

30 There are Council Directives applying to physicians (OJ 1975, L 167), nurses (OJ 1977, L 176), dentists (OJ 1978, L 233), midwives (OJ 1980, L 33) and pharmacists (OJ 1985, L 253), see Lasok (1986).

31 The First Non-Life Insurance Directive (73/239-40) ensured the right of establishment for non-life insurance companies in other Member States and the Second Non-Life Insurance Directive (88/357), which came into force July 1990, outlines provisions that will allow companies to provide services in other Member States.

in health care will not be challenged by the European Commission because they fall outside the scope of Article 86 and the new mergers regulation. Restrictive agreements and concerted practices might fall under Article 85(1) but only insofar they cover a considerable part of the market and have a significant impact on the normal pattern of interstate trade. Even if the European antitrust provisions apply to the health care industry, their actual enforcement is questionable. The European Commission does not pay much attention to the health care industry because of the absence of a communal health care market. In spite of the abundant anticompetitive self-regulation in the health care sectors of all Member States, so far the Commission prohibited only one restrictive agreement.[32] Generally, the European Commission seems to consider the market for professional services to fall primarily under jurisdiction of national antitrust authorities.[33] If the Netherlands remains the only Member State that adopts a more competitive health care structure it is unlikely that the reserved attitude of the European Commission will change. Taken all together, it would be unwise to rely on European antitrust policy to safeguard workable competition in the Dutch health care system. The maintenance of a competitive health care system seems to be a distinctive task for national antitrust policy. However, due to the strong anticompetitive traditions in Dutch health care, the present Dutch antitrust policy requires more tools and a more effective enforcement to be prepared for a successful fulfillment of this task. For this, the US may offer useful guidance, being the only country with significant antitrust experience in health care.

6.7 American antitrust experience in health care

First, we shall review the major antitrust laws of the United States. Second, we shall suggest some reasons why antitrust enforcement has only recently been applied to the health care industry. Third, we will suggest some of the theoretical underpinnings behind antitrust policy in health care in the United States. Finally, we shall review some of the most important health care

32 In 1988 the European Commission imposed a fine of 100,000 ECU on the British Dental Trade Association (BDTA) for excluding non-members from exhibitions of dental equipment, thereby depriving suppliers of dental products from other Member States of an important marketing opportunity. On the other hand, by granting an individual exemption under Article 85(3), the Commission explicitly permitted the BDTA to organize such exhibitions, provided that discrimination against non-members would be abandoned (OJ 1988 L 233/15).

33 An investigation by the OECD (1985) showed that in the light of the changing nature of the market of professional services, several Member countries are reconsidering the contemporary validity of the initial reasons which gave rise to general or specific exemptions for the professions from national competition law.

antitrust cases and note their impact on a competitive health care system. We will then suggest some lessons for antitrust policy in health care in the Netherlands.

6.7.1 Antitrust laws of the United States

The Sherman Act, enacted in 1890, was the first federal antitrust law in the United States. Under Section 1 of the Sherman Act, '[E]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce...is...illegal.' Section 2 states that [E]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce... shall be deemed guilty....'

Two additional major antitrust laws have also been passed. The Clayton Act, enacted in 1914, prohibited, in its most significant provisions, price discrimination in which sellers would '...discriminate in price between different purchasers of commodities of like grade and quality' (Section 2) as well as mergers which would 'lessen competition or to tend to create a monopoly' (Section 7). (Both Section 2 and Section 7 of the Act were modified slightly in 1936 and 1950.) In addition, the Federal Trade Commission was established under the Federal Trade Commission Act to help enforce the antitrust laws. Section 5, the most important provision of this Act, forbids 'unfair methods of competition.'

Although the Sherman Act was passed in response to the monopolization practices of the oil and tobacco trusts of the late nineteenth century, antitrust action by the two federal enforcement agencies, the Federal Trade Commission and the Justice Department, spanned an array of manufacturing and retail industries from lemon juice, to cereals, to gasoline retailing. However, until 1975, there were few antitrust cases in the health care industry. One exception was the 1930s Justice Department Sherman Act case against the American Medical Association in which the AMA blatantly attempted to stop the Group Health Association (GHA), a prepaid health plan, from competing with fee-for-service physicians. Physicians who would work for the GHA were not allowed to have membership in the local medical society, nor were they allowed staff privileges at hospitals. The Supreme Court unanimously found the medical society and the American Medical Association guilty of conspiring to restrain the operation of Group Health Association (AMA vs. United States, 317 US 519, 1943).

There appear to be several reasons for the small number of antitrust cases in health care prior to 1975. First, the belief was that the health care professions were generally exempt from antitrust litigation because of their 'learned professions' status. In Goldfarb vs. Virginia State Bar (421 US 773, 1975),

however, the Court found that the 'learned professions' including physicians were not exempt from antitrust scrutiny.

A second obstacle to antitrust enforcement has been the McCarran-Ferguson Act (15 USC 1011-1015, 1945) which exempts the 'business of insurance' from the anti-trust laws. Collusion among insurers, for example, on the underwriting of risks appears to be exempt. Private insurers in the United States pay for approximately one-third of health care expenditures.

Finally, many health care organizations, such as most hospitals, Blue Cross and Blue Shield insurance plans, and some nursing homes are non-profit firms. Section 4 of the Federal Trade Commission Act limits Federal Trade Commission jurisdiction to a corporation 'which [is] organized to carry on business for its own profit or that of its members....' The Justice Department, however, is not prohibited from bringing antitrust suits against non-profit firms, but, in a division of labor, originally left antitrust enforcement in the health care industry to the Federal Trade Commission.

In addition to legal considerations it is not clear that the health care industry prior to 1975 was conducive to antitrust violations. Insuring organizations were passive third party payers, content not to use utilization review, utilization management, or most cost containment methods. Employers did not demand that insuring organizations establish large numbers of alternative delivery systems. A relative shortage of physicians protected them from competition by allied health professionals. Very high hospital occupancy rates made competition from surgi-centers and other out-patient centers less significant.

Gradual increases in the supply of health professionals of all kinds as well as an increase in the cost consciousness of insuring organizations (the demand side) in the health care industry made the marginal benefits of bringing antitrust cases in this industry relatively high. Anti-competitive behavior, which manufacturing and retailing firms had generally learned to avoid, was now practiced in the health care industry.

The thrust of antitrust enforcement in health care can be best viewed from both supply and demand perspectives. Most supply-side policy in health care antitrust has been to increase (or at least to prevent a decrease in) the number and variety of competitors without preserving inefficient competitors. However, increases in the number of competitors, such as hospitals, may mean higher rather than lower costs in health care (Salkever 1978). If insurance firms passively pay health care bills there is no reason why health care providers would have incentives to lower costs or to compete on a price basis. Only by strengthening the demand side could higher costs be avoided. Antitrust policy, therefore, was also targeted towards collective boycotts by providers against cost-conscious third-party insurers.

By inserting health care into the traditional supply and demand framework, antitrust policymakers have treated health care like any other industry. In this way antitrust has contributed to solving some of the allocative inefficiency problems in health care. It should be cautioned, however, that concerns about equity and rising costs in health care (which are largely absent in other industries in the United States) will not be solved by a more vigorous antitrust policy or a more competitive environment. Various degrees of regulation and rationing will also be needed (Greenberg 1990).

Antitrust may have an important sentinel effect such that even cases with potentially small benefits in one segment of the industry may deter potential violations in other industries or industry segments. Firms must bear enormous litigative costs as well as undertake a period of uncertainty when sued by the Justice Department or the Federal Trade Commission. It is possible that some of the earlier cases which were brought in health care accomplished this deterrence objective. In the next section, we shall describe some of these cases.

6.7.2 Antitrust cases in US health care

Federal Trade Commission vs. American Medical Association (455 US 676, 1982). In this case, the Federal Trade Commission alleged that the American Medical Association had inhibited the ability of physicians to advertise (increasing the supply of information) by making advertising a violation of the AMA's Code of Ethics. An increased supply of information can reduce the costs of search of the patient of physicians' fees, location, or even quality attributes. Increased information may also create more price and quality competition among providers. In May 1982, the Supreme Court affirmed the Court of Appeals ruling that the American Medical Association violated Section 5 of the Federal Trade Commission Act. Although the suppression of advertising was the most well-known of American Medical Association violations it was not the only one cited in the Federal Trade Commission complaint and in the opinion of the Supreme Court. Under the 'contract practice' prohibitions of the American Medical Association, it was also unethical for physicians to underbid one another or to provide services to a 'lay' hospital or health maintenance organization (Weller 1984).

Physicians and medical societies have also interfered with HMO growth since the Goldfarb decision. In Medical Service Corp of Spokane County, (88 FTC 906, 1976), physicians were not allowed to become participating members of the State's Blue Shield plan if they worked for an HMO. Since the Blue Shield plan was one of the largest insurers in the State of Washington, this would mean significantly less insurance coverage and less income for physicians who were employed by the HMO. In a consent agreement with the Federal Trade Commission, the Medical Service Corp. of Spokane County agreed not to

discriminate against HMO-based physicians. In effect, the result of this consent agreement was potentially to increase the number of alternatives to fee-for-service practice. This does not necessarily mean that the Federal Trade Commission had endorsed alternative delivery systems over fee-for-service but rather it had emphasized the concept that alternative systems should be available for consumers to choose.

In FTC vs. Medical Staff of Doctors' Hospital of Prince George's County (File no. C-3226 settled by consent agreement, April 14, 1988), it was alleged that the medical staff of Doctors' Hospital conspired to prevent the George Washington University Health Plan from opening a suburban facility in order to treat patients. The medical staff, according to the FTC complaint, was prepared to close Doctor's Hospital where many doctors who would work for the George Washington University Health Plan had staff privileges. In the consent agreement reached with the FTC, the medical staff of Doctor's Hospital agreed not to prevent George Washington University Health Plan from opening this suburban facility.

In 1979, American Medical International, a hospital chain, acquired French Hospital in San Luis Obispo, California. The acquisition increased concentration for hospital services in San Luis Obispo city and county by eliminating a competitor from the marketplace. The Federal Trade Commission Administrative Law Judge found American Medical International to be in violation of Section 7 of the Clayton Act (107 FTC 310, 1984). Subsequent to the order, AMI had to sell the hospital to another purchaser.

In the physician services market antitrust policy has also been motivated towards increasing, or at least preventing a decrease, in the number of providers. For example, in Virginia Academy of Clinical Psychologists vs. Blue Shield of Virginia (624 F.2nd 476, 1980) clinical psychologists were denied payment by Blue Shield unless the psychologists billed the patient through a physician. According to the plaintiffs, the two Blue Shield plans in Virginia were controlled by physicians, and by simply paying a physician-psychologist in combination there would be less competition between the two groups. The fact that a majority of the Board of Directors of Blue Shield were physicians, and that psychologists and psychiatrists appear to compete in some areas was instrumental in the Court of Appeals decision against the medical societies and physicians.

Demand-side cases may make it easier for cost-conscious insuring organizations to contain costs. These cases may also make it more difficult for providers to create their own demand. Some of the earliest health care cases involved boycotts by providers of insuring organizations which sought to contain health care costs. In Indiana Dental Association (93 FTC 392, 1979) and the Indiana Federation of Dentists (476 US 447, 1986) the Federal Trade

Commission brought suit because Indiana dentists refused to furnish x-rays to cost-conscious insuring organizations. In this case it was not an individual dentist who refused to furnish x-rays on his own but rather a collective action by dental societies. If this boycott were sustained, the insuring organizations would not have enough information about a patient's physical condition in order to make a judgment on what they believed appropriate utilization to be. The Courts found these boycotts to be in restraint of trade. In Michigan State Medical Society (101 FTC 191, 1983), Physicians had boycotted the reimbursement policies of the insuring organizations. The Federal Trade Commission ruled that the boycott had the effect of decreasing competition among insurers with the result of higher fees to patients. In the consent order the Michigan State Medical Society was no longer allowed to coerce third party payers into accepting cost containment terms dictated by the Medical Society.

In the 1980s as many as twenty per cent of antitrust cases brought by the Federal Trade Commission involved the health care industry. A large number of cases were attempts to increase the supply of providers as well as to make insuring organizations more cost-conscious. This fifteen-year experience may provide some insights for European countries which appear to be moving towards a more competitive environment in health care. In the next section we discuss some lessons which may be derived from antitrust policy in the United States.

6.7.3 Lessons from the American experience

Although fifteen years is a relatively short time to examine a policy in perspective there appears to be a number of lessons to be learned. First, it appears that antitrust is an essential ingredient of a competitive health care system. If, for example, providers had succeeded in withholding information or boycotting insuring organizations, the era of the cost-conscious insurer would never have begun. Utilization review and utilization management by insuring organizations as well as the establishment of preferred provider organizations (PPOs) depends on access to medical information. In addition, if medical societies were to block entry of health maintenance organizations (HMOs), the variety and cost containment dynamism of insuring organizations would have been forestalled.

Second, it appears that bringing only a few cases in an area may have significant deterrent effects on other providers and institutions in the market. Current boycotts of insuring organizations appear to be rare after the Indiana Federation, Indiana Dental Association, and Michigan Medical Society cases.

Third, not all of antitrust investigations which may be pursued by the government will be beneficial. In an extensive investigation of the Blue Shield

Association, which represented seventy insuring organizations across the United States, the Federal Trade Commission had alleged that the influence of physicians on the Blue Shield board of directors had resulted in higher fees paid to physicians than would ordinarily be the case. In addition, it was alleged that Blue Shield had not attempted as much cost containment as other insuring organizations (FTC 1979). Although it appears like a potential conflict of interest to have physicians on the Blue Shield board of directors, an analysis of the insurance marketplace would suggest that little is to be gained from this investigation. If Blue Shield would pay higher rates and would not contain costs, it would lose market share and eventually have to exit the marketplace. (It has been suggested that Blue Shield may not lose market share because of its non-profit tax advantages over other firms; if this is the case, however, it is a regulatory imperfection, not an antitrust violation.) The most effective antitrust cases will attack the root cause of market imperfections, although this may not always be possible. For example, physicians at a particular hospital may deny hospital staff privileges to lower-cost providers or to HMO physicians. If there are many hospitals in the marketplace, lower-cost providers might find another hospital in which to obtain staff privileges. Therefore, an antitrust suit against one particular hospital might prove to be frivolous. However, if there is a single hospital in a rural town, it might be inefficient to order a divestiture to create two or more hospitals in order to reduce the hospital's market power. In this case, an antitrust suit targeted against the behavior of physicians might be the preferable option.

Antitrust policy may often involve trade-offs among price, economies of scale, and quality variables. For example, in hospital mergers, the acquisition of a hospital may result in increased market power, yet the hospitals may also achieve economies of scale which has the potential to lower costs and price. In addition, a larger hospital may also be able to realize some improvements in quality by performing a greater number of procedures and gaining increased expertise. Before an acquisition is challenged the impact on each of these three variables must be weighed.

The implementation of antitrust legislation and policy may be dictated by special interests. Antitrust institutions may be used by competitors for protection from competition (Baumol and Ordover 1985). For example, the Robinson-Patman Act of 1936, which amended Section 2 of the Clayton Act, made it illegal for firms to use price discrimination as a means to eliminate a set of competitors. Most economists therefore believe that the Robinson-Patman Act is anticompetitive, which leads to higher prices for consumers. Efficient forms of health care delivery such as health maintenance organizations ought not be subject to antitrust prosecution if their fees are below

those of fee-for-service plans. Even antitrust prosecution against mergers may be motivated by a desire to maintain existing competitors rather than to stimulate competition. Mergers can result in the establishment of efficient firms in which economies of scale are realized. Less efficient firms in the industry may bring pressure on the antitrust authorities to block a merger in order that they would not lose business to a more efficient merged firm.
Finally, antitrust alone will not be able to eliminate all of the imperfections in the economy. As we mentioned before, hospitals may be natural monopolies in small rural areas. Anti-competitive regulations by government may create barriers-to-entry in the professions or inhibit the growth of limited provider plans. Certificate-of-need laws may also curtail competition. Nevertheless, within these constraints antitrust can play a useful role in increasing marketplace competition. Indeed, a competitive marketplace in health care could not exist without the existence of antitrust.

6.8 Conclusions

The main conclusions can be summarized as follows:
– Structural reforms are not sufficient for workable competition in Dutch health care because of the historically originated dominant positions and the deeply rooted cartels. Hence, an effective antitrust policy is necessary to maintain a competitive structure and to counteract anticompetitive conduct.
– Dutch antitrust policy still is too lenient to sustain workable competition in Dutch health care, although the prohibition of 'heavy' restrictive agreements will improve its potential effectiveness considerably. If the proposed reinforcement will take place, the lack of any mergers regulation remains a serious deficiency.
– Primarily because health care competition will be on a local or regional level, the impact of European competition law will be limited. National cartels of providers and health insurers will almost certainly violate EU competition law. Since health insurance will probably be exempted from the freedom of services requirement by the Third Non-Life Insurance Directive a strict enforcement of the EU antitrust provisions in this area is not to be expected. Moreover, as long as there is no communal health care market the European Commission will presumably not be interested in antitrust enforcement. Consequently, the maintenance of a competitive health care system seems to be a distinctive task for national antitrust policy.
– American experience with antitrust policy in health care shows that an effective policy enforcement is an essential ingredient of a competitive health care system. From the application of American antitrust law to the health care

field it is clear that only a few carefully selected cases may have significant deterrent effects. With regard to Dutch health care policy, it is important to bring suit against some major antitrust offenses – like price cartels, condition cartels and boycotts – early during the health care reform to set the stage for future conduct. Finally, sometimes appropriate antitrust enforcement, for example with respect to hospital mergers, proves to be difficult because the lack of a unequivocal empirical underpinning. Hence, the application of antitrust policy in health care should be accompanied with theoretical and empirical research into the functioning of health care markets.

6.9 Postscript: the 1991-1994 period

During the three years following the publication of the preceding part of this chapter in Health Policy, several major changes have taken place, most noticeably in the area of Dutch antitrust policy and legislation. This postscript is added to summarize the main developments in the Dutch health care reform and competition policy until July 1994 (for more details, see Schut 1992b). Besides, some references are made to important cases and developments in EU and US antitrust policy in the health care sector.

6.9.1 From anti- to procompetitive government regulation in health care

Although health care reform is proceeding much slower than envisioned in the original time-table, some major anticompetitive government regulations (see Table 6.1) have been abolished or replaced by procompetitive regulations. Since the early 1990s the following steps toward a market-oriented health care have been realized:

– From 1993 sickness funds receive a partially *risk-adjusted per capita payment* from the General Fund. As a consequence sickness funds run a small financial risk. In addition, each insured has to pay a flat rate premium to his sickness fund. Each sickness fund is free to determine its own flat rate premium.

– From 1994 sickness funds have the option to *selectively contract* with physicians and other health care professionals, such as pharmacists, dentists and physiotherapists.

– From 1992 sickness funds and private health insurers are allowed to negotiate *lower fees* than the officially approved fees.

– From 1992 sickness funds are permitted to extend their regional working area and to gain members in other parts of the country. Now almost all sickness funds are working *nation-wide*.

– In 1992, for the first time since the introduction of the Sickness Funds

Decree in 1941, several private health insurance companies got permission to establish a new sickness fund organization. Hence, the prevailing *absolute barrier to entry was removed.*
– From 1992 sickness fund members got the *opportunity to choose another sickness fund* (at least) once every two years.
– From 1992 registered general practitioners (GPs) no longer need a license from a municipality to settle down into practice. Hence, a major government restriction on the *freedom for a GP to establish a practice* is eliminated.
– In 1992 rehabilitation care was the first benefit covered by compulsory health insurance (AWBZ) for which the existing institutional definition was replaced by a broad *functional definition.* This implied that the provision of rehabilitation services would no longer be tied to specific institutions, thereby enhancing (potential) competition among suppliers of rehabilitation services. The development of an adequate system of product definitions and output pricing proved to be more difficult than expected, so the old guidelines for determining the administrative prices of services by rehabilitation centers are still used. Nevertheless, considerable progress has been reported in the area of product classification as well as in developing innovative modes of provision of rehabilitation care (Van Beek and De Bie 1994).
– September 1992, the government announced a *drastic change of attitude towards concentrations in the hospital sector* (WVC 1992c). In a note on hospital mergers the government took the view that a further consolidation of hospitals would be counterproductive, except in the case of small hospitals (those with less than 200 to 250 beds).[34] The government reported to be informed about 20 intended mergers between medium or large hospitals, which would substantially increase the already high concentration levels in most health regions (see Chapter 5).[35] After an analysis of the pros and cons of such mergers, the government concluded that there were little or no efficiency arguments for expanding the number of large hospitals (those with more than 400 to 500 beds). Moreover, according to the government, unre-

34 In 1992 only 13% of all general hospitals had fewer than 200 beds. Interestingly, US antitrust authorities (DOJ and FTC) take a somewhat similar stand towards mergers involving small hospitals. In September 1993, they issued a statement on hospital mergers which carves out an 'antitrust safety zone' for very small hospitals (Starek 1994). The statement made clear that the antitrust authorities will not challenge any merger between two general acute-care hospitals where one of the hospitals has an average of fewer than 100 licensed beds or fewer than 40 patients per day over the three most recent years. According to the antitrust authorities, empirical evidence and prior merger investigations suggest that mergers involving very small hospitals typically have some sort of efficiency enhancing motivation and seldom pose any discernable threat to competition.

35 From 1988 to 1992 the number of general hospitals further declined from 140 to 112, raising the concentration levels relative to those reported in Chapter 5. For more recent data on concentration ratios in the hospital sector, see Den Hartog en Janssen (1993).

strained hospital merger activity will generate 'regional monopolies which will upset the equilibrium between cooperation and competition' in the hospital sector. Hence, the government declared to be very reluctant in granting the required permissions for the construction of new hospitals needed to realize the intended mergers. By not granting these permissions, the government can use the Hospital Facilities Act (WZV) as a quasi merger control instrument. Paradoxically, however, the proposed deregulation of the WZV will not only create more room for hospital competition but will also remove the government's only tool to counteract hospital mergers.[36]

Ironically, the deregulation of price setting in health care so far has resulted in a reinforcement of the role of the state rather than that of the market. As explained in Chapter 2, parliament attached a crucial amendment to the limited deregulation of the Health Care Prices Act (WTG) in 1992 (by which legally fixed prices were replaced by legally maximum prices). This amendment unintentionally provided the government with a powerful tool to impose fee reductions in order to realize politically determined expenditure targets. Since then the government frequently used this new instrument to impose fee reductions on a variety of health care providers, such as medical specialists, physiotherapists, pharmacists, and dentists. Although in 1992 far-reaching deregulation of the (WTG) was recommended by a specially appointed advisory committee (Commissie Prijsvorming in de Zorgsector 1992), more than two years later the government still had not taken a clear stand on this issue (WVC 1994).

The main obstacle for a further deregulation of health care prices and planning legislation (WTG and WZV) is the absence of adequate pro-competitive regulation to reinforce the demand side. Most crucial in reforming the demand side is the development of a system of risk-adjusted capitation payments to health insurers, which among other things has to motivate insurers to purchase cost-effective care on behalf of their customers and to refrain from risk selection. Without an effective pressure from the demand side government would be unwise to give up its instruments to regulate prices and quantities of health services.

6.9.2 Anticompetitive conduct and antitrust enforcement

As could be expected, providers and insurers anticipated and reacted to deregulation by substituting private cartels for legally protected cartels. For

36 In 1993 the government (WVC 1993a) laid down a proposal to deregulate the WZV for several types of inpatient care (such as rehabilitation, mental health care and nursing home care). However, whether (part of) this proposal will be eventually implemented is uncertain. In its 1994 Coalition Agreement, the new cabinet maintained that 'also after deregulation, planning of inpatient care will continue to be a government task'.

instance, in response to the introduction of selective contracting the associations of GPs and pharmacists have reinforced their bargaining position by setting up strong regional organizations. By forming such regional cartels, the association of pharmacists successfully obstructed attempts by some health insurers to differentiate remuneration rates and other contractual conditions. In several regions dominant regional health insurers have concluded 'umbrella' contracts with regional GP associations. Such contracts usually include agreements about the provision of information, the use of standards, the freedom for patients to choose a GP and the establishment of new GP practices.[37] Medical specialists are increasingly cooperating in regional partnerships across hospitals. As explained below, restrictive agreements between members of the same partnership are likely to escape antitrust scrutiny. An increasing number of hospitals collaborate in some type of cooperative. In 1994 16 large general hospitals are cooperating in two national hospital chains and a large number of other hospitals, nursing homes and home care organizations are involved in 14 regional cooperatives. The main reason hospitals put forward for joining the national hospital chain which was formed in 1994 was to fortify their market position vis à vis the health insurers. In 1992 nearly all sickness funds concluded a formal agreement about premium setting, market sharing and risk pooling, which was terminated after the Ministry of Economic Affairs made clear that the agreement was likely to be challenged. Nevertheless, the following year sickness funds still adhered to the same flat rate premium.

In 1994 insurers barely used the new selective contracting opportunity, which can be explained by the strong regional provider cartels and the lack of incentives for insurers to act as a prudent buyer of health care. However, as mentioned above, some insurers tried to negotiate different contractual terms with individual pharmacists. The association of Dutch pharmacists (KNMP) and the full-line pharmaceutical wholesalers so far successfully counteracted insurers' attempts to break up their cartel or dominant market position. Not surprisingly, therefore, most of the recent antitrust activity in health care is focused on the pharmaceutical sector. In January 1994 the Ministry of Economic Affairs asked the Economic Competition Commission for advice about its intention to forbid a for more than 20 years existing agreement between a sickness fund with an own pharmacy (Azivo) and the association

37 Some of these agreements, such as those concerning the establishment of new practices, may raise antitrust concerns, while others may not. For instance, in 1993 US antitrust authorities issued a statement which sets out a 'safety zone' for information sharing relating to treatments and outcomes and the development of standards for patient management that may assist physicians in clinical decisionmaking. Collective provision of fee-related information, however, is explicitly excluded from this safety zone (Starek 1994).

of Dutch pharmacies (KNMP).[38] According to the agreement Azivo has to conclude contracts with any willing pharmacy which is member of the KNMP, and Azivo's pharmacy has to restrict its activities to a specific territory and a specific group of customers (subscribers of Azivo) and must set its prices in accordance to those determined by the KNMP. The Ministry considers the agreement to be in conflict with the objectives of health care reform and an unnecessary restraint on competition. May 1994 the Ministry of Economic Affairs took action against a boycott of a mail order pharmacist by a cartel of the three major pharmaceutical wholesalers. The wholesalers successfully appealed against a provisional decision by the Ministry of Economic Affairs to terminate the boycott and the pharmacist subsequently decided to stop its mail order activities. The Ministry of Economic Affairs reacted by announcing to investigate whether the wholesalers have such a dominant market position that they can be prevented from refusing to supply drugs on the ground that a pharmacist is engaged in mail order activities.[39]

6.9.3 Changes in Dutch antitrust legislation

The accelerating European economic integration process and the concurrent need to conform with EU legislation forced the government to change its permissive attitude towards cartels. Hence, in the past few years the orientation of Dutch competition policy has changed considerably. The emphasis is shifted from the traditional case-by-case approach to an approach which hinges on the prohibition of certain types of highly restrictive practices.

Prohibition of price fixing and market sharing

The new approach resulted in subsequent generic prohibitions of horizontal price-fixing, as from July 1993 (EZ 1993a), and of market-sharing agreements

38 The Sickness Fund Act (ZFW) does not allow sickness funds to operate their own pharmacies or other health care delivery organizations. Only those sickness funds which had their own medical facilities before the ZFW was enacted in 1964 were permitted to keep their business. The Azivo sickness fund is one of the two sickness funds that still operates an own pharmacy. Next to the obligation for sickness funds to contract with any willing provider, the independence of health care delivery organizations was a major issue during the prewar battle between physicians and sickness funds (Van der Hoeven et al. 1993). The association of physicians maintained that both requirements were necessary to guarantee freedom of choice for their patients. Since the freedom of choice principle primarily served to safeguard the economic position of the medical profession, it can be more appropriately labeled as the principle of 'guild free choice' (Enthoven 1988). One of the objectives of the health care reform is to promote vertical integration of insurers and providers, so in due time the legal obstacle for sickness funds to operate their own medical facilities is likely to be removed.

39 It should be noticed that in fact pharmacies rather than wholesalers have an interest in a boycott of mail-order pharmacies. However, since the largest wholesaler is for more than 90 percent owned by pharmacies their interests coincide. The other wholesalers may even be regarded as victims of the dominant market position of the powerful pharmacists' cartel.

and collusive tendering, as from June 1994 (EZ 1994a). Since then all agreements and concerted practices aimed at price fixing and market sharing are prohibited, unless they are formally exempted. The definition of market-sharing agreements is quite comprehensive, including all agreements between undertakings or independent professionals which restrict their freedom to determine quantity or capacity of production, business locations, areas of distribution, sources of supply or the division of customers and suppliers.

The government set out a number of provisions to exempt specific categories of price-fixing and market-sharing agreements from the generic prohibitions. Some of these exemptions are highly relevant for the health care sector. Firstly, price-fixing or market-sharing agreements that for some reason are granted an individual or block exemption from EU competition law, will be also permitted under national competition law. For instance, agreements among health insurance companies about the calculation of common risk premium tariffs[40], the establishment of common standard policy conditions and about common coverage of certain types of risks will be allowed because of the recent block exemption for such agreements granted by the EU-Commission (Regulation 3932/92 of December 21, 1992).

A second and probably most important exemption is granted for price-fixing and market-sharing agreements which are based on specific national laws. In the health care sector prices, productive capacity and areas of distribution are still largely determined by the Health Care Prices Act (WTG) the health insurance laws (AWBZ, ZFW and WTZ) and the Hospitals Facilities Act (WZV), thereby severely restricting the applicability of the generic prohibitions in this industry. For instance, antitrust authorities will not be able to prevent health care providers from sticking to legally approved maximum fees (based on the WTG). However, by a recent antitrust decision both the government and Economic Competition Commission (CEM) made clear that agreements among health care providers which put additional constraints on price setting will be prohibited (EZ 1994e).

Thirdly, price-fixing and market-sharing agreements by members of the same partnership are explicitly exempted because partnerships are considered to be 'single economic entities' for which such agreements are deemed indispensable. So, price-fixing agreements between members of partnerships of medical specialists or other health care providers will be tolerated even when the determination of health care prices will be deregulated.

Fourthly, an exception is made for price-fixing agreements among small

40 Risk premium tariffs are defined as net or pure premiums, exclusive of loadings for contingencies, the financial products of reserves, administrative or commercial costs comprising commissions payable to intermediaries, fiscal or para-fiscal contributions or anticipated profits.

purchasers (each having 100 employees at maximum).[41] Hence, small third-party purchasers of health care (such as health insurers, health centers and HMOs) will be allowed to jointly negotiate prices of provider services, drugs, medical devices and other health services.

Next, exemptions are granted for price-fixing and market-sharing agreements of minor importance, which do not have an appreciable effect on competition. A *de minimis* rule is included to specify in which cases agreements are to be considered of minor importance. A distinction is made between agreements primarily concerning the delivery of goods and those primarily concerning the delivery of services. Agreements are considered to be of minor importance when no more than eight independent participants are involved and when the participants' joint turnover in the preceding calendar year does not exceed 1 million guilders (for services) or 5 million guilders (for goods). In the health care sector the threshold for services is most relevant. Due to the rather low threshold only local agreements among a limited number of providers will be exempted. For instance, even local market-sharing agreements among five independent general practitioners, dentists or physiotherapists are already likely to surpass the critical turnover level.

Finally, undertakings and independent professionals may request an individual exemption from the generic prohibition of price-fixing and market-sharing agreements. To qualify for an exemption the agreement must be indispensable to the public interest, which is judged by the same criteria as the European Commission uses in deciding whether or not to grant an individual exemption. Hence, the agreement must contribute to improving the production or distribution of goods or services, must be indispensable to the attainment of the beneficial results, must not be likely to eliminate competition in a substantial part of the market and must guarantee that consumers obtain a fair share of the resulting benefits. A review of the EU Commission's decisions reveals that price-fixing and market-sharing agreements hardly ever received the benefit of an exemption. Likewise, Dutch antitrust authorities may find hardly any price-fixing or market-sharing agreement meeting the requirements to qualify for an exemption. Indeed, of the 51 requests for an exemption from the prohibition of horizontal price-fixing that were submitted only one was granted by the end of July 1994 (22 requests were refused, 7 withdrawn, 1 declared inadmissable, and 20 are still under investigation). Most of the 22 requests for an exemption from the prohibition of market-sharing agreements

41 By setting out an antitrust safety zone for joint purchasing arrangements in health care, the US antitrust authorities explicitly recognized the potential procompetitive of such collaborative activities. The safety zone applies to all arrangements which account for less than 35% of the sales of the purchased product in a relevant market, provided that the cost of the jointly purchased products accounts for less than 20% of each participant's total revenue (Starek 1994).

which were under investigation by the end of July 1994 are also likely to be refused. Several of the requests for exemption concern price and market-sharing cartels in the health care sector. Remarkably, the only price-fixing cartel which is permitted so far is the agreement by the association of the Dutch pharmaceutical industry (Nefarma) to realize for a two years' period a 5 percent price reduction of all prescription drugs included in the benefits package of the Exceptional Medical Expenses Act (AWBZ) in order to avert government price regulation (EZ 1994c). However, requests for exemptions were refused in the case of a more than 50 years old agreement on fixing the prices of over-the-counter drugs by the Dutch chemists' association (Pharmacon) (EZ 1994d) and in the case of a price cartel by dental prosthesis technicians (EZ 1994e). A request for exemption by a private health insurer and a number of sickness funds for an agreement on the determination of premiums of joint policy offers is still under investigation with the Ministry of Economic Affairs. The same holds good for market-sharing arrangements included in the Ethical code and Rules of conduct of the association of Dutch pharmacists (KNMP).

Amendments to the Economic Competition Act

Although the generic prohibitions imply a considerable potential reinforcement of national competition policy their effectiveness is constrained by the insufficient instruments to enforce them. Antitrust authorities are only allowed to investigate whether a price-fixing or market-sharing cartel exists if they have a reasonable suspicion of their existence. Evidence to corroborate such a suspicion usually is very difficult to present. Moreover, the sanctions on breaching the prohibitions are low (fines being at maximum 100,000 guilders in 1994), so in most cases their deterring effect is likely to be insignificant. Therefore, in September 1993 the government introduced a bill to amend the Economic Competition Act in order to increase its effectiveness (EZ 1993b). In 1994 the bill was passed by the parliament and the amendments are likely to become effective in 1995. In the amended competition law the investigative power of the antitrust authorities is considerably expanded, since a reasonable suspicion of breaching of the antitrust rules is no longer required prior to starting an investigation. In addition, some other modifications were introduced. First, the possibilities to take action against non-binding agreements ('gentlemen' agreements) and concerted practices were considerably extended. Next, by replacing the phrases 'owners of undertakings' and 'independent professionals' by 'undertaker' the scope of the competition law was extended. According to the amended law the term 'undertaker' should be interpreted very broadly, comprising all non wage-earning natural persons and legal entities participating in the economic process. In fact, in the accompanying explanation of the amended law it was

pointed out that the interpretation of 'undertaker' may even be more comprehensive than that of the term 'undertaking' in the EEC Treaty. In 1993 the European Court of Justice decided that French social insurance foundations were not considered to be undertakings because they did not employ economic activities,[42] whereas the Secretary of State for Economic Affairs stressed that the term undertaker was precisely so defined as to include sickness funds (EZ 1993b, no. 10, p. 8).[43]

Towards a new, European-style competition act

Despite the above mentioned meaningful revisions which are proposed or implemented during the last years, the Economic Competition Act still has some important weaknesses. For instance, generic prohibitions under article 10 of the Economic Competition Act, require a detailed specification of the types of agreements which are not permitted. Instead, the European rules of competition only need to specify which (types of) agreements are exempted. Obviously, the European approach leaves far less opportunities for strategic firm behavior than the Dutch approach. Secondly, effective antitrust enforcement is hampered by the fact that the present legislation is based on criminal law rather than administrative law, since criminal law is too rigid, criminal courts lack specific expertise on antitrust matters and criminal sanctions are inadequate. Thirdly, the current Economic Competition Act lacks a provision to counteract abuse of purchase power (EZ 1992). Notice that this omission may be particularly relevant to the health care sector, where health insurers have an intermediary position between consumers and providers of care. Hence, when a dominant health insurer (ab)uses its monopsonistic power in negotiating (exclusive) contracts with providers this may also enhance his market position as a seller of health insurance policies.[44]

42 Poucet vs. AGF and Camulrac, Case 159/91 (1993), Pistre vs. Cancava, Court Judgment February 17, 1993.

43 It should be noticed, however, that the European Court judgment does not automatically imply that Dutch sickness funds cannot be regarded as undertakings because it is explicitly related to the specific French social insurance system (Du Pré 1993). Sickness funds presumably are more likely to be regarded as undertakings because, contrary to their French counterparts, they run some financial risk, may establish flat rate premiums, may selectively contract with providers and are allowed to compete for subscribers.

44 In a report for the Ministry of Economic Affairs on abuse of dominant market positions, NERA (1992, p. 131) concludes that 'in some instances effective intervention against abuse of purchase power is possible in the Netherlands. Pressure by consumers on suppliers not to supply other customers is an example of abuse which has successfully been countered'. An example of such a case in US health care is Reazin vs. Blue Cross and Blue Shield of Kansas, Inc. (633 F.Supp. 1360, 1987). In this case the dominant health insurer in Kansas was found guilty of violating the antitrust laws after terminating a hospitals' provider status on the sole ground that the hospital had contracted to provide services to a competing HMO. In the US several other antitrust cases were brought against abuse of monopsonistic power by health insurers. For a detailed discussion of these cases, see Miller (1988).

Finally, the establishment of a single European market will require a further alignment of Dutch competition policy and that of the European Union and the other Member States.

In February 1994, the Ministry of Economic Affairs asked both the Economic Competition Commission (CEM) and the Social and Economic Council (SER) for advice on the introduction of a completely new competition law (EZ 1994b). In its official requests for advice, the government specifies the contents of the proposed competition act as well as the rationale for its introduction. By analogy with Article 85 of the EEC Treaty, agreements between undertakings, decisions by associations of undertakings and concerted practices to restrict competition will be illegal *per se*, provided that individual or certain types of agreements may be granted an exemption from the antitrust rules.[45] In addition, abuse by one or more undertakings of a dominant market position shall be prohibited, analogous to Article 86 of the EEC Treaty. Abuse will be interpreted as any kind of dominant firm behavior which is likely to threaten free and fair competition, which is considerably more clear than the present criterion of harm to the public interest.

Criteria for granting individual or block exemptions will be similar as those of Article 85(3) of the EEC Treaty, although specific quantitative criteria (such as total sales figures) may be adjusted to appropriate national dimensions. Restrictive agreements and concerted practices which are based on other national laws will also be exempted from antitrust scrutiny. Hence, the relevance of the new competition law for the health care sector will strongly depend on the extent to which the Health Care Prices Act (WTG) and the Hospital Facilities Act (WZV) will be deregulated. The current exemption from the prohibition of horizontal price-fixing for purchase price agreements among small firms (each employing no more than 100 persons) will not be maintained under the new competition law. Joint purchasing cooperatives, however, may be exempted, except when they have a dominant market position. As remarked above, this may be of particular interest to health insurers which are involved in or may consider to join purchasing cooperatives to contract with providers or to buy drugs and medical aids and appliances. Finally, agreements of minor importance will be exempted from the new competition law by a *de minimis* rule, which will be based on the same criteria as currently used in deciding whether price-fixing and market sharing agreements are important enough to fall under the generic prohibitions of the Economic Competition Act (although the exact quantitative thresholds may be chosen differently). Hence, restrictive agreements between a few providers

45 The definition of undertaking will be very comprehensive, including all organizations (private as well as public, for-profit as well as not-for-profit) and independent professionals participating in the economic process.

with a limited joint turnover will be exempted because they are not supposed to have an appreciable effect on competition.
The new competition act will be enforced under administrative law by a semi-independent competition agency within the Ministry of Economic Affairs. The new agency will get extensive investigative powers to enforce the law. A separate department within the agency will be responsible for the determination and imposition of sanctions. The principal type of sanction will be administrative fines, ranging up to one million guilders or 10 percent of total sales for each involved undertaking.

Dutch merger policy: still a maverick in the EU?
Remarkably, for several reasons a national control on concentrations was not (yet) considered necessary. As a first reason for deciding against the implementation of merger control the government argued that it is not evident that the level of market concentration in any industry is high enough to make such a control imperative. Secondly, the government argued that it is also insufficiently clear whether a preventive or repressive system of merger control would be appropriate. Thirdly, according to the government a national merger control policy would not be very effective because the international dimension of most concentrations in the Netherlands would put them beyond the scope of such a domestic policy.
The reasoning behind the decision to refrain from merger control does not seem to be very convincing. Contrary to the assertions of the government there are several mainly *domestic* industries in which the current levels of market concentration and profit margins are sufficiently high to warrant a critical assessment of the potential effects of (further) concentrations. For instance, as a result of two recent mergers between the largest domestic banks, market concentration in the banking sector has become very high, the three largest banks accounting for about 70 percent of the balance sheet of all Dutch banks.[46] In addition, due to a recent take-over the pharmaceutical wholesaling market is dominated by only three major domestic full-line wholesalers, while their average gross margin is the highest within Europe (Andersson 1994).[47] Furthermore, as argued before, market concentration in the hospital sector

46 Noticeably, the Dutch Consumers Union (Consumentenbond) asked the European Commission to investigate the potential adverse consequences for consumers of a merger between a major bank and a major insurance company. However, the European Commission declared that the merger did not fall under its jurisdiction because both firms realized more than two-thirds of their turnover in the same Member State (OECD 1993, note 31).

47 In a recent inquiry into the prevailing impediments for competition in the market for pharmaceuticals, a governmental working group concluded that 'the present market power of the full-line pharmaceutical wholesalers is so high that they can effectively prevent potential newcomers from entering the market' (IWG 1994, p. 29).

already is so high as to put a serious constraint on the potential success of the market-oriented health care reform. The same applies to the high regional market concentration in the sickness fund sector. Moreover, particularly since the instigation of the health care reform both hospitals and sickness funds have consolidated their positions through a large number of defensive mergers. By deciding against a control on concentrations, the Netherlands will remain the only country, except for Denmark, within the EU without a national merger control regulation. This is particularly striking given the emphasis the government itself puts on the need to bring Dutch competition law into line with EU rules of competition.

6.9.4 Concluding remarks

Health care reform is proceeding much slower than originally envisioned. By contrast Dutch competition policy is changing rather dramatically. As a consequence, reform of antitrust policy is by now far ahead of health care reform. While the present room for price competition in health care is still very limited, competition policy is gradually becoming a credible and effective instrument. Eventually, a new EU-style competition law will probably come into force in 1997. Although the new cabinet stipulates in its 1994 Coalition Agreement that the health care reform has to be rounded off in 1998, this time schedule is likely to be too optimistic (again). For the potential success of health care reform, however, the present order of succession is to be applauded. Once the opportunities for competition in health care may be expanded, an effective competition policy will be available to sustain it.

In her (ominous?) last words in parliament as Secretary of State for Economic Affairs, Mrs Van Rooy points out that her 'impression is more than strong, that the health care sector is an exceptionally appealing area for competition' and that she is 'sharing the opinion, that her successor on this spot has to do quite a lot of wonderful work' (EZ 1993b, no. 10, p. 11). Indeed, the next government, which came into office August 1994, announced in its Coalition Agreement an active and critical anti-cartel policy in health care. However, such a policy only makes sense if the existing anticompetitive government regulation will be replaced by pro-competitive regulation, aimed at reinforcing the demand side by providing consumers with sufficient information and health insurers with adequate incentives to motivate them to act as an agent in the interest of consumers.

7

Conclusion

In this thesis the role and feasibility of competition in health services and health insurance markets were investigated, with the focus on the Dutch health care system.

At the turn of the century, competition in health care was common in many countries. Yet, after the Second World War, the rise and expansion of the welfare state had practically terminated the role of (price) competition in health care. Rising levels of health care expenditure and increasing proficiency among the medical profession meant that competition was no longer regarded as a suitable way to organize the allocation of health care resources. Competition in health care would not only result in substantial inequity, thus bringing it into conflict with distributional principles dominant in most industrialized societies, but would also result in an inefficient allocation due to severe information problems. Both equity and efficiency arguments therefore provided a rationale for banning competition from the health care sector.

Since the 1980s, however, the role of competition in health care and other social services sectors is under reconsideration. In the Netherlands, as well as in an increasing number of other countries, health care reforms were proposed and instigated which were directed towards strengthening the role of market forces in resource allocation. Major reasons for the revival of competition were the alleged inefficiencies of nonmarket institutions and the increasing 'burden' upon public expenditure which it was believed would jeopardize the global competitiveness of national economies. Competition was put forward as a means of reducing costs, increasing both flexibility and efficiency, and enhancing consumer choice. Because the existing nonmarket institutions in health care are, in part, a response to overcoming inherent market failure, one may wonder what role, if any, competition can play in improving efficiency. Are the reasons for banning competition from health care markets no longer valid? Or have circumstances changed in such a way as to make competition potentially more effective? These questions are addressed in the first chapter.

7.1 The role of competition in health care

The *first chapter* examines the potential role of competition in improving efficiency of resource allocation in health care markets under equity and cost containment constraints. As explained, the nature, extent and asymmetric distribution of uncertainty in health care give rise to a series of principal-agent problems. In unregulated competitive health services and health insurance markets these principal-agent relations result in welfare-reducing phenomena like supplier-induced demand, moral hazard and adverse selection. Moreover, in an unregulated competitive health care market important externalities cannot be internalized, causing an additional welfare loss to society.

Many of the nonmarket institutions in health care – such as professional licensure, ethical codes of conduct, bans on price competition, and the predominance of nonprofit institutions and of social health insurance – can be considered to be attempts to overcome the lack of optimality of unregulated competition in medical care markets. Although these institutional arrangements are likely to effectuate a more efficient resource allocation than in an unregulated competitive market, they only partially deal with the existing principal-agent problems. It is far from evident that the prevailing institutional arrangements in health care markets are, or continue to be, the best possible way to handle the pervasive information problems. The increasing share of national income spent on health services prompted the search for alternative institutional arrangements that may improve static and dynamic efficiency. To date, the most comprehensive model to deal with the agency and externality problems in the market for non-catastrophic risks is Enthoven's concept of regulated or managed competition. The managed competition model can also satisfy different distributive goals. There is no guarantee, however, that it can constrain total spending growth to a politically desired level. In the regulated competition model, the government still has to play an active and important role. Major government responsibilities are to develop, administer and enforce the rules of competition, to effectuate cross-subsidies from the healthy and wealthy to the sick and the poor, to support national quality assessment programs and to define a standardized basic benefit package. Hence, the introduction of regulated competition implies *re*regulation rather than *de*regulation. Moreover, government has to retain its primary responsibility for the financing and organization of comprehensive preventive care programs and for the financing of long-term care for the chronically ill, since the model of regulated or managed competition is less appropriate for the financing of these types of care.

The introduction of some form of managed or regulated competition is the objective of health care reform (proposals) in an increasing number of

countries throughout the world. In each of these countries, the concept is adapted to the specific features of the health care system, the institutional framework and the underlying value system of the society concerned. The Dutch health care reform, as proposed by the Dekker Committee in 1987 and subsequently endorsed by the government, was largely based on the original concept of *regulated* competition.

For a successful implementation of a regulated or managed competition model, several complicated technical problems have to be mastered. Major technical issues are the development of an adequate risk-adjusted payment system for health insurers, other third-party purchasers or consumers, the systematic gathering and evaluation of process and outcome data to assess quality of care, the dissemination of understandable information about quality of care to the general public and the development of standardized product definitions and related output prices. The rapidly advancing information technology augments the capability and reduces the transaction costs of dealing with these problems. The solutions to these technical problems are, to some extent, critical not only to the success of managed competition but to that of other health reform proposals as well. Thus, major challenges for future health care policy are largely independent from the direction of health care reform.

7.2 Institutional feasibility of regulated competition in Dutch health care

The feasibility of regulated competition in health care crucially depends on the flexibility of the institutional structure. This is particularly so, since the design of a regulated competitive health care system is complicated. The extent and speed to which the institutional structure can be adapted to changing conditions determines the adaptive efficiency of an economic or political system. In the *second chapter*, the institutional features of the Dutch health care system and their transformation during the postwar period are analyzed to assess the institutional feasibility of the market-oriented health care reforms. In the corporatist Dutch health care system, decision-making is the outcome of what is known as consensus policy. The Christian Democrats, who have dominated politics throughout this century, have deliberately rendered (or transferred) as much power as possible to representative organizations of providers, health insurers, employers and employees. These organizations are officially involved in the major advisory bodies and other quasi-governmental organizations, which play a determining role in the decision-making process. Within this complex structure of checks and balances, neither government nor any of the major interest groups has enough

power to accomplish fundamental changes independent from the others. However, each of them has sufficient influence to obstruct the others' initiatives. Unilateral government intervention can only succeed if self-regulation clearly fails. As a result, Dutch health care policy is characterized by a slow and cumbersome decision-making process, resulting in piecemeal adjustments to the health care system. During the postwar period, the gradual transformation of the Dutch health care system was twice interrupted by attempts to introduce radical reforms based on rational designs: the 1974 comprehensive health planning scheme and the 1987 national health insurance scheme with regulated competition among providers and health insurers. In both instances, the breakthrough of the status-quo could only happen because a number of concurrent factors culminated in the general perception that fundamental change was imperative. Both reform proposals were initially applauded but in due course encountered increasing opposition. The complexity of the reform designs required a careful and prolonged implementation process with diffuse long-term benefits to society but concentrated short-term costs to vested interests. Interest organizations, which are embedded in the decision-making process, constantly try to counteract measures they consider to be potentially harmful. Comprehensive health planning largely failed. The implementation of market-oriented reform got stuck not even halfway. Private health insurers were particularly successful in slowing down the reform by frustrating the development of a prospective risk-adjusted payment mechanism. Paradoxically, the slowing down of the market-oriented reform again induced a swing in the etatist direction, since it unintentionally provided the government with arguments and tools to impose a series of unprecedented provider rate reductions in order to attain its cost containment targets.

The corporatist decision-making structure of the Dutch health care system has effectively obstructed fundamental reforms. Corporatist organizations were reluctant to render enough power to the government to make comprehensive health planning successful and were equally reluctant to relinquish the comfortable collective bargaining model for market-based individual negotiations and to assume the associated financial responsibility. Without a reorganization of the decision-making process itself, a fundamental change in the balance between corporatism, etatism and market mechanism in the organization of health care cannot be realized. But international developments, such as the European unification process, as well as national developments, such as the dislodging of Christian Democrats from government and far-reaching proposals to reorganize the welfare state and to cut down the number and role of advisory bodies, steadily undermine the role of corporatist organizations in decision-making. These changes may increase

the adaptive efficiency needed to bring about fundamental changes in the incentive structure of the Dutch health care system.

7.3 Viability and efficiency of competitive health insurance markets

The organization of the health insurance market is critical to the performance of the health care market in general. In the managed or regulated competition model, competition among health insurers plays a pivotal role. Competition for the patronage of potential subscribers should motivate health insurers to look after the quality and cost-effectiveness of medical treatment. However, the effect of competition among health insurance companies on efficiency and access to health care crucially depends on the institutional framework in which competition takes place. As financial intermediaries between patients and doctors, insurers can perform two different functions: risk pooling and cost control. Hence, in examining the welfare consequences of competition in health insurance markets, one should make a distinction between these two functions. With regard to the traditional insurance function of risk pooling, efficiency is related to the extent to which adequate risk protection can be offered. With regard to the second function, efficiency is related to the extent to which insurers can reduce inappropriate use of medical care.

In the Netherlands, a substantial private health insurance market exists with a large number of competing health insurers. As explained in the first chapter, private health insurers still largely concentrate on the function of risk pooling. Indeed, one of the main objectives of the Dutch health care reform is to alter the incentive structure in such a way as to motivate insurers to perform the second function as well.

The third and the fourth chapter examine the effect of competition among insurers on their ability to offer adequate protection against risk. *Chapter three* provides a theoretical analysis of the effects of unregulated competition on the performance of the risk pooling function in insurance markets with asymmetric information. In competitive insurance markets asymmetric information induces adverse selection, which can cause equilibrium to be inefficient or even non-existent. The Rothschild-Stiglitz (RS) model of a simplified insurance market is extended by assuming that insurers can obtain costly information about characteristics that are correlated with the risk of the applicants. In addition, either insurers or the government are assumed to have sufficient foresight to endorse an agreement about the calculation of risk premiums. Examples of such agreements are the 'Market code non-life insurance', which for more than a decade was endorsed by a vast majority of the Dutch non-life insurance companies, and the block exemption from the

EU competition rules for agreements on the calculation of common risk premiums tariffs, which was granted by the European Commission to the insurance industry in 1992. It is shown that such a self-imposed or government-imposed restraint on behavior makes imperfect risk classification feasible. In comparison to the RS model, the resulting equilibrium set of contracts is not only more likely to exist but also Pareto superior. In other words, some institutional restriction on competition may induce insurers to reduce information asymmetry by investing in costly risk classification which may stabilize a competitive insurance market and may result in more adequate risk protection and thus in a welfare gain to society.

Chapter four analyzes the role of competition in the Dutch private health insurance market throughout this century. Using structure, conduct and performance data the changing nature of the adverse selection problem in the Dutch individual health insurance market is investigated. The analysis demonstrates that during the prewar period (1910-1940) the private health insurance market suffered from a 'true' adverse selection problem, caused by a substantial informational asymmetry between insurers and insured. Health insurers were forced to accept heterogenous risks at pooled premium rates because analysis of different risks was too difficult and prohibitively expensive. In conformity with theoretical expectations, adverse selection resulted in high failure rates (40 percent of all health insurers failed within a period of, on average, 10 years after establishment), while failure rates were particularly high among health insurers which offered the most comprehensive coverage. Since risk-rating was technically unfeasible, health insurers which managed to survive developed a number of alternative strategies to cope with the adverse selection problem. Essentially, these strategies were directed at adjusting the risk of the portfolio to the prevailing premium structure, instead of adjusting premiums to risks. As a consequence, the elderly and those in poor health could obtain no or only partial coverage. Given the inadequate level of risk protection, the unregulated competitive health insurance market clearly did not produce an efficient outcome. After the second world war, the harsh underwriting strategies became more and more socially controversial. Due to the rapidly rising cost of medical care, denial of health insurance coverage could inhibit financial access to health services even for the relatively affluent privately insured population. In addition to mounting social pressure, the successful growth of non-profit health insurers, which employed far more lenient underwriting practices, urged traditional commercial health insurers to relax their underwriting standards. However, permissive underwriting practices and generous policies could only be sustained if adverse selection would be effectively reduced. The only straightforward method to mitigate adverse selection was to reduce competition by cartelization. Therefore, most

commercial health insurers decided to co-operate and to issue a uniform health insurance policy. But in the early 1970s the quiet market was gradually undermined by escalating health care costs. The preceding decade of self-regulation had effectuated a wide disparity between premium rates and expected health care costs of individual subscribers. Large health insurers with a relatively large share of high-risk subscribers found themselves increasingly exposed to a fatal premium spiral. For the period 1968-1984 an empirical model was developed and estimated to test for the presence of premium spirals. The empirical results provide strong evidence of the existence of a premium spiral, caused by regulation-induced adverse selection. Besides, early dominating health insurers were found to have a first-mover disadvantage. In absence of refined risk-rating, they were more likely to get caught in a premium spiral because the composition of their portfolio became less favorable over time.

To escape the threatening premium spiral, health insurers had no other choice than to improve risk selection and to refine risk rating. Once initiated, the process of premium differentiation and market segmentation rapidly escalated, eventually provoking government intervention to keep private insurance affordable for high-risk groups. From 1989 to 1991 nearly all privately insured elderly people and other high-risk groups were brought under a quasi social health insurance scheme (WTZ), heavily subsidized by the privately insured population.

The experience of the Dutch private health insurance industry demonstrates that in an unregulated competitive environment it is increasingly difficult to bridge the widening gap between opposite demands on insurer behavior by society and by market forces. On the one hand, given the high cost of medical care, refined risk rating is unacceptable to society because it jeopardizes universal financial access to health services. On the other hand, the high cost of medical care forces competing insurers to refine risk rating. Moreover, the advancing information technology and augmenting actuarial knowledge increase the opportunities and reduce the costs of risk classification. Thus, the private health insurance industry is trapped between increasingly conflicting principles of social fairness and actuarial fairness.

The most simple solution to this problem is to replace competitive private health insurance by a retrospectively financed social health insurance scheme, such as the WTZ. But such a system does not produce any incentives for insurers to perform the second function of counteracting moral hazard and supplier-induced demand. Perhaps the most promising way to combine incentives for adequate risk protection and cost control is the introduction of a system of premium-replacing risk-adjusted capitation payments to insurers (or, alternatively, a system of risk-adjusted vouchers to consumers), as

envisioned in the Dutch health care reforms. If capitation payments to insurers can be sufficiently tailored to the risk of their subscribers, a competitive health insurance market can be maintained with incentives to foster efficient medical care but without the adverse consequences of (dealing with) adverse selection.

7.4 Workable competition and antitrust policy in health care

In the second chapter the corporatist decision-making structure in Dutch health care was contended to be a major stumbling block for a successful implementation of market-oriented health care reforms. Other critical and related obstacles for workable competition in health care are the historically determined market structure and the institutionalized patterns of conduct in the Dutch health services and health insurance market. In *Chapter five* structure and conduct in the markets for health insurance, physician services and hospital services are analyzed to examine the prospects for workable competition. On the one hand, the analysis shows that the structural preconditions for a market-oriented health policy in the Netherlands are relatively good as compared to other industrialized countries, because of the high population density and the large number of private institutions. On the other hand, the historically determined structure of the health care financing and delivery system, the long-standing tradition of anti-competitive self-regulation and of collective bargaining by government-protected cartels of providers and insurers, put significant constraints on the feasibility of workable competition. By determining the capacity of resident training programs, the medical profession can effectively regulate entry to the market. If competition is to work, these barriers to entry should be reduced. In addition, rather extensive government regulation to monitor the conduct of both providers and insurers is needed. An effective antitrust policy is a necessary but not a sufficient condition to maintain a competitive structure and to counteract anticompetitive conduct.

The potential role of antitrust policy in a regulated competitive health care system is examined in the *sixth chapter*. The effectiveness of both Dutch and EU competition policy were evaluated. At the instigation of the health care reform, Dutch competition policy was too lenient to sustain workable competition in health care. But, while the health care reforms proceeded much slower than envisioned and consequently the room for price competition in health care only marginally increased, competition policy gradually became a credible and effective instrument. Important steps in the direction of an effective competition policy were the prohibition of price-fixing cartels in 1993 and of market-sharing cartels in 1994. Eventually, a new EU-style competition

law is projected to come into force in 1997. For the potential success of health care reform, the present order of succession – first creating an effective competition policy before expanding the room for competition – is to be applauded. A notable exception, however, is the lack of any (intention to adopt a) mergers regulation, which would constitute a serious deficiency of competition policy in the health care sector, given the already high and still increasing level of concentration in several relevant submarkets.

Because competition in health will primarily be on a local or regional level, the impact of European competition law will be limited. As long as a communal health care market is largely absent, the European Commission, increasingly stressing its adherence to the principle of subsidiarity, will presumably not be interested in active antitrust enforcement in this area. Consequently, the maintenance of a competitive health care system seems to be a distinctive task for national antitrust policy. Nevertheless, nationwide cartels of providers and health insurers will almost certainly violate EU competition law.

So far, experience with antitrust enforcement in health care is confined to the US. Therefore, a number of important antitrust cases in US health care were reviewed to assess their potential relevance for the Netherlands. The American experience with antitrust policy in health care shows that an effective policy enforcement is an essential ingredient of a competitive health care system. From the application of American antitrust law to the health care field it is clear that only a few carefully selected cases may have significant deterrent effects. With regard to Dutch health care policy, it is important to bring suit against some major antitrust offenses – like price cartels, condition cartels and boycotts – early during the health care reform to set the stage for future conduct. Finally, in a number of cases, for example with respect to hospital mergers, appropriate antitrust enforcement proves to be difficult because of a lack of unequivocal empirical underpinning. Hence, the application of antitrust policy in health care should be accompanied with theoretical and empirical research into the functioning of health care markets.

7.5 Epilogue

Competition can play a useful role in improving the efficiency of resource allocation in health services and health insurance markets. But the effects of competition in health care strongly depend on the institutional structure in which it operates. The magic of the invisible hand can only work if it is guided by appropriate rules which are set, administered and enforced by the government or another independent regulatory agency. In addition, for both

equity and efficiency arguments government should institute a redistributive system of cross-subsidies from the healthy and wealthy to the sick and the poor.

The model of regulated competition underlying the Dutch health care reform is worth pursuing. But its feasibility depends on the capability to address a number of complicated technical and institutional problems. Specifically, issues that should be put or remain high on the policy agenda, are the modification of the decision-making structure, the development of a prospective risk-adjusted payment system for insurers (or, alternatively, a risk-adjusted voucher system for consumers), the development of national quality assessment programs, the definition of a standardized basic benefit package and the enforcement of an effective antitrust policy. Even when all conditions are fulfilled, however, regulated competition is not an overall concept that can work equally well for all types of care. For the financing of specific types of long-term care and for the financing and organization of comprehensive preventive care other regulatory regimes are more appropriate.

The introduction of competition in health care certainly does not allow government to take a stance of sit back and watch. To create and sustain an appropriate incentive structure to steer competition in a welfare-enhancing direction, to maintain equity and to realize cost containment is a daunting task. However, given the intricate information problems in health care markets and the presence of potentially conflicting policy goals of efficiency, equity and cost containment, any hope that the quest for a suitable market order in health care can produce simple solutions is illusory. But complex solutions are difficult to explain and difficult to implement especially when they substantially diverge from the prevailing situation. Politicians do not like this. The stagnation in the Dutch health care reform since 1993 made many policy-makers support the statement that 'grand designs' are unworkable. Instead of a grand design, incremental change is applauded. But incremental change in what direction? Without a sense of direction, health policy becomes a purely reactive process. The suggestion that grand designs and incremental changes contradict each other is false, because the implementation of a grand design typically requires a prolonged series of incremental formal steps, followed by usually even slower changing informal norms.

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Samenvatting

Concurrentie in de Nederlandse gezondheidszorg

Met de Structuurnota Gezondheidszorg begon ruim 20 jaar geleden een zoektocht naar een passende marktorde in de gezondheidszorg, die tot op de dag van vandaag voortduurt. Aanleiding vormde de explosieve en onbeheersbare stijging van de kosten van gezondheidszorg. In de Structuurnota werd voorgesteld om de kostenstijging te beheersen via een integrale planning van voorzieningen. Ofschoon het beoogde planningmodel grotendeels mislukte, wist de overheid geleidelijk steeds meer greep te krijgen op de kostenontwikkeling in de gezondheidszorg, via van bovenaf opgelegde maatregelen ter beperking van het zorgaanbod.

Deze centrale aanbodregulering heeft echter haar keerzijde. De zich opeenstapelende regelgeving belemmert innovaties in de organisatie van de zorgverlening en noodzakelijke herallocatie van middelen tussen sectoren. De stimulansen voor kosten-effectieve substitutie van zorg (technische efficiëntie), voor het verlenen van 'zorg op maat' voor patiënten (allocatieve efficiëntie) en voor kwaliteitsbevorderende en kostenbeperkende innovaties (dynamische efficiëntie) zijn beperkt.

Het falen van het planningmodel, de toenemende kritiek op het eenzijdig afgedwongen rantsoeneringsbeleid en de wens om de doelmatigheid en flexibiliteit van de zorgverlening te vergroten, heeft in de jaren tachtig geleid tot een herwaardering van de rol van het marktmechanisme in de gezondheidszorg. In het in 1987 verschenen advies van de Commissie Dekker, dat richtinggevend werd voor een fundamentele stelselherziening, werd het planningmodel van de Structuurnota vervangen door een ordening op basis van gereguleerde concurrentie tussen zorgaanbieders en tussen zorgverzekeraars. De herwaardering van de markt in de gezondheidszorg paste overigens in een veel bredere (inter)nationale trend van deregulering.

Het is echter allesbehalve vanzelfsprekend dat de onzichtbare hand van concurrentie in de gezondheidszorg een heilzame werking zal kunnen hebben. Wegens de vermeende negatieve gevolgen van prijsconcurrentie in de gezond-

heidszorg, is concurrentie in de medische sector in de loop van de twintigste eeuw juist zoveel mogelijk uitgebannen. Concurrentie werd algemeen beschouwd als een ongeschikt ordeningsprincipe omdat het de financiële toegankelijkheid tot de zorg in gevaar zou brengen en bovendien zou leiden tot een maatschappelijk inefficiënte allocatie van voorzieningen door de aanwezigheid van cruciale informatieproblemen op de markten voor zorgverlening en ziektekostenverzekering.
De recente herwaardering van de rol van concurrentie roept de vraag op of de omstandigheden en inzichten zodanig veranderd zijn dat de overwegingen om concurrentie in de gezondheidszorg uit te bannen niet langer geldig zijn. In aansluiting hierop rijst de vraag of concurrentie een rol kan spelen ter verbetering van de doelmatigheid van de zorgverlening, en zo ja onder welke voorwaarden. Los van de wenselijkheid van concurrentie kan men zich ten slotte afvragen in hoeverre concurrentie in de Nederlandse gezondheidszorg *haalbaar* is gegeven de institutionele structuur en de bestaande marktverhoudingen. De bovenstaande drie vragen staan centraal in dit proefschrift.

I De rol van concurrentie in de gezondheidszorg

In het *eerste hoofdstuk* wordt onderzocht welke rol concurrentie in de gezondheidszorg kan spelen ter verbetering van de doelmatigheid van de zorgverlening onder voorwaarde van het waarborgen van financiële toegankelijkheid en macro-kostenbeheersing. Uiteengezet wordt dat de sterk asymmetrische verdeelde informatie tussen vragers en aanbieders van gezondheidszorg en ziektekostenverzekeringen leidt tot een aantal fundamentele problemen, zoals aanbod-geïnduceerde vraag, 'moral hazard' (mentaliteitsrisico) en 'adverse selection' (antiselectie of ongunstige risico-selectie). Bovendien kunnen zogenaamde externe effecten die voortkomen uit de aanwezigheid van sterke altruïstische preferenties in een ongereguleerde concurrerende markt voor gezondheidszorg niet worden geïnternaliseerd, waardoor eveneens maatschappelijk welvaartsverlies optreedt.
Veel van de instituties in de gezondheidszorg, zoals de wettelijke bescherming van het medisch beroep, concurrentiebeperkende gedragsregels voor artsen, sociale ziektekostenverzekeringen en de wettelijke verankering van de non-profit status van zorginstellingen, kunnen worden beschouwd als pogingen om de uit de fundamentele informatieproblemen voortvloeiende tekortkomingen van het marktmechanisme op te heffen. Dat dergelijke instituties in de gezondheidszorg tot een efficiëntere allocatie van middelen leiden dan ongereguleerde concurrentie is aannemelijk. Maar de bestaande instituties bieden

slechts een gedeeltelijke oplossing voor de bestaande informatieproblemen, waardoor de allocatie van middelen uit oogpunt van efficiëntie suboptimaal is.

Wereldwijd heeft het toenemend beslag van gezondheidszorg op de beschikbare schaarse middelen geleid tot een zoektocht naar nieuwe institutionele structuren ter bevordering van de statische en dynamische efficiëntie in de gezondheidszorg. De meest omvattende oplossing voor zowel de informatieproblemen als de verdiscontering van externe effecten in de gezondheidszorg is Enthoven's model van gereguleerde of gestuurde concurrentie ('managed competition'). In dit model worden de bestaande informatieproblemen in de gezondheidszorg gereduceerd door de bundeling van vragersmacht in 'zorginkooporganisaties' ('health care purchasing cooperatives') die namens groepen consumenten contracten sluiten met concurrerende 'health plans' waarin de functie van verzekeraar en zorgverlener geïntegreerd zijn. De negatieve welvaartseffecten van (het bestrijden van) antiselectie in de verzekeringsmarkt worden gereduceerd door invoering van een systeem van risico-afhankelijke subsidies ('vouchers') voor verzekerden. Door middel van deze risico-afhankelijke subsidies voor verzekerden kan bovendien rekening worden gehouden met bestaande altruïstische preferenties. Het model van gereguleerde concurrentie biedt echter geen (theoretische) garantie dat de groei van de uitgaven aan gezondheidszorg kan worden beperkt tot een politiek gewenst niveau.

In het model van gereguleerde concurrentie past geen terugtrekkende overheid. De overheid is verantwoordelijk voor cruciale taken zoals het opstellen, aanpassen en handhaven van de spelregels voor concurrentie, het effectueren van een systeem van risico-afhankelijke bijdragen voor verzekerden, het vaststellen van een verplicht, gestandaardiseerd basis-verstrekkingenpakket en het systematisch verzamelen, analyseren en verspreiden van openbaar toegankelijke informatie over kwaliteit van zorg.

In een toenemend aantal landen, waaronder Nederland, worden hervormingen van het gezondheidszorgsysteem voorgesteld of ingevoerd die gebaseerd zijn op Enthoven's model van 'managed competition'. Aangezien het model (nog) nergens integraal is ingevoerd zijn er geen empirische bevindingen die uitsluitsel kunnen geven of de theoretische verwachtingen ook praktisch realiseerbaar zijn, ofschoon empirische studies aantonen dat het model op onderdelen kan werken.

Voor een succesvolle integrale invoering van het model van gereguleerde concurrentie zullen overigens verschillende gecompliceerde technische problemen moeten worden opgelost. Cruciale problemen zijn: (1) de ontwikkeling van een adequaat systeem van risico-afhankelijke subsidies aan verzekerden

of van risico-afhankelijke, deels premievervangende bijdragen aan verzekeraars; (2) het verzamelen, evalueren en verspreiden van relevante proces- en uitkomstmaatstaven ter beoordeling van de kwaliteit van de zorgverlening; en (3) de ontwikkeling van relevante en bruikbare produktdefinities en daaraan gerelateerde kostprijzen. Tot voor kort waren de technische randvoorwaarden voor een succesvolle invoering van gereguleerde concurrentie in de gezondheidszorg afwezig. Maar door de snelle ontwikkelingen in de informatietechnologie zijn adequate en betaalbare oplossingen voor de bovengenoemde problemen steeds beter mogelijk.
Tenslotte is in hoofdstuk 1 beargumenteerd dat het model van gereguleerde concurrentie, afgezien van de gememoreerde technische problemen, geen panacee is dat toepasbaar is in alle sectoren van de gezondheidszorg. Zo is het model niet geschikt voor vormen van zorg waarvoor geen effectieve druk vanuit de vraagzijde te verwachten valt, zoals bijvoorbeeld in het geval van psychogeriatrische zorg en verslaafdenzorg. Wegens de specifieke kenmerken van de vraag naar preventieve zorg is het model evenmin geschikt voor collectieve en individu-gerichte programmatische preventie.

2 De institutionele haalbaarheid van concurrentie in de gezondheidszorg

De haalbaarheid van gereguleerde concurrentie in de gezondheidszorg hangt in sterke mate af van de flexibiliteit van de institutionele structuur. De mate waarin en snelheid waarmee de institutionele structuur kan worden aangepast aan veranderende omstandigheden bepaalt de adaptieve efficiëntie van een economisch systeem. Het *tweede hoofdstuk* bevat een analyse van de kenmerken en de naoorlogse ontwikkeling van het Nederlandse gezondheidszorgsysteem en -beleid, teneinde de haalbaarheid van de introductie van gereguleerde concurrentie in te schatten.
Het Nederlandse gezondheidszorgsysteem heeft sterk corporatistische trekken. De overheid heeft daartoe aangewezen representatieve organisaties van zorgaanbieders, zorgverzekeraars, werkgevers en werknemers een belangrijke rol toebedeeld in het besluitvormingsproces. Noch de overheid noch de representatieve organisaties hebben voldoende macht om eenzijdig fundamentele veranderingen door te voeren, doch de afzonderlijke partijen hebben doorgaans wel voldoende macht om fundamentele veranderingen te blokkeren. Fundamentele veranderingen in het stelsel van gezondheidszorg vereisen dus een 'bereidheid tot verandering' bij alle betrokken partijen. Een dergelijke consensus is moeilijk te bewerkstelligen doordat representatieve organisaties tevens optreden als belangenbehartiger namens hun achterban.

In de naoorlogse periode zijn er twee grootscheepse pogingen ondernomen om een fundamentele herordening van het stelsel van gezondheidszorg te realiseren. Op grond van de in 1974 uitgebrachte Structuurnota werd gepoogd de greep van de overheid op de organisatie van gezondheidszorg drastisch te vergroten door een samenhangende regulering van de prijzen, het aanbod en de financiering van zorgvoorzieningen. Op grond van het advies van de Commissie Dekker uit 1987 werd gepoogd de rol van het marktmechanisme te vergroten door individuele zorgverzekeraars en zorgaanbieders de ruimte, stimulansen en instrumenten te bieden voor onderlinge concurrentie. Zowel in 1974 als in 1987 was de aanzet tot de radicale hervormingen mogelijk doordat er door een samenloop van omstandigheden consensus ontstond dat een fundamentele koerswijziging geboden was. Maar in beide gevallen was de bereidheid tot verandering bij de betrokken partijen van korte duur. Beide hervormingsvoorstellen vereisten wegens hun complexiteit een zorgvuldig en stapsgewijs invoeringsproces met diffuse lange-termijn voordelen voor de samenleving tegenover aanwijsbare korte-termijn nadelen voor gevestigde belangengroeperingen. Door de invloedrijke positie van belangengroeperingen in de advies-, overleg- en besluitvormingsstructuur van de Nederlandse gezondheidszorg zijn zij in staat onwelgevallige hervormingsmaatregelen te blokkeren en zo uiteindelijk de hervormingen als zodanig effectief te frustreren. Eerst waren de corporatistische organisaties in het veld van de gezondheidszorg niet bereid voldoende macht aan de overheid af te staan om het regionale planningmodel van de Structuurnota te laten slagen. Vervolgens waren zij evenmin bereid om het comfortabele en risicoloze collectieve overlegmodel in te ruilen voor een lokaal of regionaal onderhandelingsmodel met daaraan gekoppelde financiële verantwoordelijkheid. Zo is bijvoorbeeld het verzet van particuliere verzekeraars tegen het beoogde systeem van premievervangende risico-afhankelijke bijdragen (normuitkeringen) mede verantwoordelijk voor de ontstane impasse in de huidige stelselherziening.
De schijnbare status-quo betekent echter niet dat in het evenwicht tussen corporatisme, etatisme en marktmechanisme geen verschuivingen optreden. Aangezien het corporatistisch model waarin partijen weinig of geen financieel risico lopen weinig stimulansen biedt voor doelmatigheid en kostenbeheersing, heeft de overheid, geconfronteerd met het groeiend beslag van gezondheidszorg op schaarse collectieve middelen, zich genoodzaakt gezien geleidelijk haar greep op de gezondheidszorg te verstevigen. De overheid heeft achtereenvolgens via restricties aan de uitbreiding van de instellingscapaciteit (door middel van de vanaf 1975 jaarlijks vast te stellen bouwplafonds), de budgettering van de exploitatiekosten van instellingen (vanaf 1983), de afgedwongen loonmatiging voor verplegend en verzorgend personeel (vooral vanaf 1984) en de macro-budgettering van de medisch specialisten (vanaf 1990) en andere

medische beroepsbeoefenenaren (vanaf 1992) haar invloed op de allocatie van middelen steeds verder vergroot. Paradoxaal genoeg was de macro-budgettering van medische beroepsgroepen zelfs een, aanvankelijk onbedoeld, uitvloeisel van de beoogde deregulering van de tarievenwetgeving.
Zolang de overheid als enige partij direct belang heeft bij doelmatigheid en kostenbeheersing in de gezondheidszorg, zal het sluipend proces van 'etatisering' ongetwijfeld voortduren. De balans tussen corporatisme, etatisme en marktmechanisme in de gezondheidszorg zal dan steeds verder doorslaan in de richting van de overheid. In dat geval zullen verzekeraars vooral de rol van uitvoeringsorgaan vervullen en lijkt een (verdere) sanering van hun aantal, conform het oorspronkelijke regionale ordeningsmodel van de Structuurnota, wenselijk uit het oogpunt van doelmatigheid.
Voor de haalbaarheid van het model van gereguleerde concurrentie is het noodzakelijk dat partijen in het veld het huidige risicoloze collectieve overlegmodel opgeven. Zonder een reorganisatie van de besluitvorming in de gezondheidszorg is de kans hierop gering. Een dergelijke reorganisatie lijkt echter nog slechts een kwestie van tijd. Zowel internationale ontwikkelingen, zoals het proces van Europese eenwording en de globalisering van markten, als nationale ontwikkelingen, zoals de voorgestelde drastische herziening van de advies- en overlegstructuur, de terugdringing van de verzorgingsstaat en het aantreden van een 'paarse' regeringscoalitie zonder de nauw met het maatschappelijk middenveld verbonden Christen-democraten, ondermijnen de corporatistische besluitvormingsstructuur in de gezondheidszorg.

3 Duurzaamheid en doelmatigheid van een concurrerende ziektekostenverzekeringsmarkt

In het model van gereguleerde concurrentie speelt concurrentie tussen ziektekostenverzekeraars een cruciale rol. Concurrentie om de gunst van potentiële verzekerden moet verzekeraars motiveren om doelmatige en kwalitatief hoogwaardige zorg te bevorderen via selectieve contractering en (re)organisatie van het zorgaanbod.
Het effect van concurrentie tussen verzekeraars op de doelmatigheid en toegankelijkheid van de zorgverlening is sterk afhankelijk van het institutionele kader waarbinnen de concurrentie zich afspeelt. Als financiële intermediairs tussen patiënten en zorgverleners kunnen ziektekostenverzekeraars twee belangrijke functies vervullen: een verzekeringsfunctie en een regiefunctie. De traditionele verzekeringsfunctie betreft het spreiden van individuele risico's over grote aantallen verzekerden. De regiefunctie heeft betrekking op het 'regisseren' van de zorgverlening met als oogmerk de

doelmatigheid van de zorg te vergroten en de schadelast te beheersen. Het institutionele kader is van doorslaggevend belang voor het accent dat verzekeraars leggen op elk van beide functies. Nederland kent van oudsher een aanzienlijke particuliere markt voor ziektekostenverzekeringen waarbinnen een groot aantal concurrerende verzekeraars opereren. Binnen de bestaande institutionele verhoudingen is het verklaarbaar dat particuliere verzekeraars zich vrijwel uitsluitend bezighouden met de traditionele verzekeringsfunctie (zie hoofdstuk 1). De ratio van het model van gereguleerde concurrentie is een dusdanige aanpassing van de institutionele structuur dat verzekeraars worden gemotiveerd om zich ook toe te leggen op de regiefunctie.
Bij het beoordelen van de welvaartseffecten van concurrentie tussen ziektekostenverzekeraars moet een onderscheid worden gemaakt tussen deze beide functies. Met betrekking tot de verzekeringsfunctie gaat het om het effect van concurrentie op de mogelijkheid van het bieden van een adequate verzekeringsdekking. Met betrekking tot de regiefunctie, gaat het om de beoordeling van de mate waarin concurrerende verzekeraars in staat zijn onnodige zorg te beperken.

In het derde en vierde hoofdstuk is respectievelijk op theoretische en empirische wijze onderzocht in hoeverre verzekeraars in een concurrerende markt individuen een adequate financiële bescherming tegen (ziekte)risico's kunnen bieden. *Hoofdstuk 3* bouwt voort op het theoretisch model van Rothschild en Stiglitz van een concurrerende verzekeringsmarkt met asymmetrische informatie (waarbij is verondersteld dat verzekeraars geen informatie over het risico van potentiële verzekerden hebben terwijl verzekerden zelf hun risico goed kunnen inschatten). Het model is uitgebreid door te veronderstellen dat verzekeraars tegen bepaalde kosten informatie kunnen verkrijgen over kenmerken van potentiële verzekerden welke gecorreleerd zijn met hun risico. Met andere woorden, verzekeraars kunnen investeren in risicoclassificatie. Voorts is verondersteld dat de kosten van risicoclassificatie oplopen met de nauwkeurigheid waarmee risico's kunnen worden ingeschat. Onder de in een concurrerende markt plausibele veronderstelling dat aanbieders c.q. verzekeraars ieder hun winst trachten te maximeren zonder rekening te houden met mogelijke reacties van concurrenten (ook wel 'bijziend' of 'Nash'-gedrag genoemd) kan er alleen een evenwicht worden bereikt door zelfselectie van verzekerden, waarbij verzekerden met een laag risico kiezen voor een polis met een onvolledige dekking. Aangetoond is dat verzekeraars dan niet zullen investeren in risicoclassificatie. Wanneer het percentage verzekerden met een hoog risico beneden een kritieke grens ligt is zelfs geen marktevenwicht mogelijk.

In hoofdstuk 3 wordt echter aangetoond dat in de context van het theoretische model verzekeraars de stabiliteit van de markt kunnen vergroten door gezamenlijk af te spreken de calculatie van risicopremies voor onderscheiden risicogroepen te baseren op de gemiddelde verwachte schade binnen de betreffende risicogroep (risicopremies zijn premies exclusief opslagen voor administratiekosten, marketingkosten, overige kosten en winst). Met andere woorden, risicopremies dienen een 'actuarieel faire' grondslag te hebben. Dergelijke afspraken zijn gebruikelijk in de verzekeringsbranche. Zo werd in Nederland het 'verzekeringstechnisch verantwoord' vaststellen van risicopremies vastgelegd in de zogenaamde 'Marktcode Schadeverzekeringsbedrijf' die vanaf eind jaren '70 tot 1993 door de meeste schadeverzekeraars werd onderschreven. Sinds eind 1992 vallen afspraken over het vaststellen van gemeenschappelijke risicopremietarieven binnen de Europese Unie (EU) onder een groepsvrijstelling voor kartelafspraken in de verzekeringssector.
Uit het theoretisch model volgt dat wanneer risicopremies actuarieel fair zijn het voor verzekeraars lonend is om te investeren in risicoclassificatie, mits de kosten daarvan niet buitensporig hoog zijn. Het marktevenwicht dat aldus tot stand komt is bovendien Pareto-superieur aan het evenwicht in het model van Rothschild en Stiglitz (dat wil zeggen dat sommige verzekerden een betere verzekeringsdekking wordt geboden zonder dat dit ten koste gaat van de dekking voor andere verzekerden). De conclusie is dat in een concurrerende verzekeringsmarkt met asymmetrische informatie afspraken over de wijze van risicopremiecalculatie kunnen bijdragen aan de totstandkoming en doelmatigheid van marktevenwicht. Zelfs wanneer verzekeraars zich uitsluitend concentreren op de verzekeringsfunctie kan enige regulering van de concurrentie dus tot een efficiëntere uitkomst leiden.

In *hoofdstuk 4* wordt het effect van concurrentie in de Nederlandse markt voor particuliere ziektekostenverzekeringen geanalyseerd op grond van gegevens over marktstructuur, marktgedrag en marktresultaat. Centraal staat de vraag hoe ziektekostenverzekeraars in de loop van deze eeuw zijn omgegaan met het probleem van antiselectie ('adverse selection'). Antiselectie ontstaat als gevolg van asymmetrische informatie tussen verzekeraar en verzekerde. Doordat de verzekerde meer informatie over zijn risico heeft dan de verzekeraar heeft of gebruikt, loopt de verzekeraar het risico dat binnen een onderscheiden risicocategorie verzekerden met een relatief hoog risico eerder geneigd zijn een voor die risicocategorie bestemde polis te kopen dan verzekerden met een relatief laag risico, waardoor de polis verliesgevend wordt. In de vooroorlogse periode (1910-1940) ontbraken de noodzakelijke statistische gegevens en de benodigde actuariële kennis voor premiedifferentiatie op basis van risicoclassificatie. Ziektekostenverzekeraars waren daar-

door genoodzaakt zeer heterogene risicogroepen te accepteren tegen dezelfde (doorsnee)premie. Conform de theoretische verwachtingen leidde dit tot een aanzienlijk antiselectie probleem, gekenmerkt door een voortdurende stroom van toetredingen en faillisementen. Ongeveer 40 procent van de in de vooroorlogse periode opgerichte verzekeraars ging failliet in gemiddeld minder dan tien jaar, waarbij het aantal faillisementen vooral hoog was onder verzekeraars met polissen met een ruime verzekeringsdekking. Het marktevenwicht op de vooroorlogse markt voor particuliere ziektekostenverzekeringen was dermate instabiel dat geen enkele gerenommeerde schadeverzekeraar zich aan deze branche waagde.

Aangezien premiedifferentiatie naar risico technisch onmogelijk was, zagen verzekeraars zich genoodzaakt andere strategieën te ontwikkelen ter bestrijding van het antiselectie-probleem. In essentie kwamen deze strategieën er op neer dat men, in plaats van de premie aan te passen aan het risico, het risico van de verzekerden in de portefeuille probeerde aan te passen aan de doorsneepremie, onder meer door middel van selectieve acceptatie, het hanteren van leeftijdsgrenzen, uitsluitingen en opzeggingen aan het eind (en soms zelfs tijdens) de contractperiode. Het gevolg van dit beleid was dat ouderen en anderen met een hoog ziekterisico dikwijls geen of slechts een zeer onvolledige ziektekostenverzekering konden afsluiten. De vooroorlogse, sterk concurrerende markt voor particuliere ziektekostenverzekeringen bleek dus niet in staat de verzekeringsfunctie efficiënt te vervullen.

Door de toenemende effectiviteit en kosten van medische zorg in de naoorlogse periode werd het feit dat particuliere verzekeraars geen afdoende bescherming tegen ziekterisico's konden bieden in toenemende mate als maatschappelijk onaanvaardbaar beschouwd. Onvoldoende financiële toegankelijkheid tot noodzakelijke zorg was strijdig met de heersende altruïstische en solidariteitsvoorkeuren in de samenleving. Zodoende kwamen ziektekostenverzekeraars terecht in een spanningsveld van een tot equivalentie tussen premie en risico dwingende markt (equivalentiebeginsel) en een tot solidariteit tussen gezonde en ongezonde burgers dwingende samenleving (solidariteitsbeginsel).

Naast commerciële en onderlinge verzekeraars werden kort na de tweede wereldoorlog door tal van ziekenfondsen zogenaamde 'bovenbouwverzekeraars' opgericht teneinde degenen die door het overschrijden van de loon- of inkomensgrens het ziekenfonds moesten verlaten een particuliere ziektekostenverzekering te kunnen garanderen. Deze bovenbouwverzekeraars voerden een veel ruimhartiger acceptatiebeleid en royalere polisvoorwaarden dan de meeste gevestigde ziektekostenverzekeraars. Zij konden zich een dergelijk acceptatiebeleid veroorloven door gebruik te maken van het relatief goedkope administratieve apparaat van de ziekenfondsen, de nagenoeg kosteloze

acquisitie van nieuwe verzekerden en de aanvankelijk relatieve gunstige opbouw van hun verzekerdenportefeuille. Desalniettemin ging eind jaren vijftig de grootste bovenbouwverzekeraar, met een marktaandeel van ongeveer 10%, aan haar non-selectieve acceptatiebeleid en uiterst vrijgevige verzekeringsvoorwaarden ten onder.
De explosieve groei van de bovenbouwverzekeraars en de groeiende druk vanuit de samenleving tot socialere verzekeringsvoorwaarden noopten de gevestigde ziektekostenverzekeraars tot nauwe samenwerking. Immers, alleen door breed gedragen samenwerking konden zij zich eveneens een liberaler acceptatiebeleid en socialere verzekeringsvoorwaarden permitteren zonder ten onder te gaan aan de gevolgen van antiselectie. In 1957 besloot een groot aantal commerciële ziektekostenverzekeraars daarom een gezamenlijke polis te gaan voeren en een gezamenlijke pool op te richten voor mensen met een hoog ziekterisico. Het probleem van antiselectie werd dus tegengegaan door kartelvorming.
Deze betrekkelijk fragiele marktorde werd echter vanaf het eind van de jaren zestig ondergraven door explosief stijgende kosten van gezondheidszorg. Bij het nog steeds gangbare systeem van ongedifferentieerde doorsneepremies ontstond een steeds grotere discrepantie tussen de premie en de gemiddelde kosten voor verzekerden met een relatief laag en relatief hoog ziekterisico. Bovendien namen de kostenverschillen tussen lage en hoge leeftijdsgroepen niet alleen in absolute maar ook in relatieve zin toe. Commerciële ziektekostenverzekeraars die de relatief dure gemeenschappelijke polis voerden kregen weinig nieuwe jonge en gezonde verzekerden waardoor hun verzekerdenportefeuille langzaam verouderde. Door de vergrijzing van hun verzekerdenbestand waren zij gedwongen de premie verder te verhogen, hetgeen tot een uittocht van verzekerden met een relatief laag risico leidde. Aldus dreigden zij in een vergrijzingsspiraal van een verouderend verzekerdenbestand en oplopende premies terecht te komen.
Voor de periode 1968-1984 is een empirisch model ontwikkeld en geschat om de hypothese van het optreden van een vergrijzingsspiraal te kunnen toetsen. De schattingsresultaten ondersteunen de hypothese. Voorts blijkt uit de empirische resultaten dat verzekeraars met een hoge doorsneepremie vergeefs hebben geprobeerd aan de vergrijzingsspiraal te ontsnappen door jonge, gezonde verzekerden aan te trekken via de introductie van polissen met een hoog eigen risico en leeftijdsgebonden premies. Verzekeraars die het meest kwetsbaar waren voor de vergrijzingsspiraal werden daarnaast gekenmerkt door een relatieve verslechtering van hun rendementspositie door onvoldoende aanpassing van hun premies. De onvoldoende premieaanpassing kan enerzijds worden verklaard door de angst nog meer verzekerden met een relatief laag risico te verliezen en anderzijds door de prijzenbeschikking waarmee de

overheid jaarlijks de premiestijging aan banden legde. Tenslotte geven de empirische resultaten aan dat in een ziektekostenverzekeringsmarkt met een (door verzekeraars zelf) gereguleerde premiestructuur de wet van de remmende voorsprong geldt: grote, gevestigde verzekeraars bleken relatief kwetsbaar voor een vergrijzingsspiraal. Door de omvang van hun verzekerdenportefeuille waren zij niet in staat om voor voldoende aanwas van jonge, gezonde verzekerden te zorgen. Aldus werden zij slachtoffer van hun eigen succes. De particuliere ziektekostenverzekeringsmarkt wordt dan ook gekenmerkt door opeenvolgende generaties van snel groeiende en vervolgens stagnerende verzekeraars.

Door deze ontwikkelingen nam de druk tot premiedifferentiatie sterk toe. Bovendien werden door de automatisering en de groeiende omvang van de verzekerdenportefeuilles de technische mogelijkheden voor premiedifferentiatie steeds groter terwijl de kosten ervan navenant afnamen. In de jaren zeventig zorgde de angst voor een dreigende volksverzekering dat de druk tot premiedifferentiatie nog werd weerstaan. Desalniettemin kwam de marktorde steeds verder onder druk te staan door de steeds actievere werving van lage risicogroepen door middel van polissen met een hoog eigen risico en door de succesvolle marktpenetratie van 'direct writers' met een op jonge en gezonde verzekerden gericht agressief acquisitiebeleid. Het wegvallen van de dreiging van een volksverzekering en de steeds verdergaande scheefgroei tussen de verzekerdenportefeuilles van de verschillende verzekeraars culmineerde in de jaren tachtig uiteindelijk in een toenemende risicoselectie en premiedifferentiatie. Het solidariteitsbeginsel moest steeds meer plaatsmaken voor het equivalentiebeginsel.

De vrijwillige ziekenfondsverzekering werd het slachtoffer van dit proces omdat zij wettelijk gebonden was aan een acceptatieplicht en een ongedifferentieerde premiestructuur. Uit vergelijkbare gegevens over de medische consumptie per leeftijdscategorie blijkt dat vooral sinds 1981 jonge en gezonde personen hun vrijwillige ziekenfondsverzekering verruilden voor een particuliere polis. De overheid moest steeds meer bijspringen om de vrijwillige ziekenfondsverzekering betaalbaar te houden. In 1986 zag zij zich uiteindelijk genoodzaakt de vrijwillige ziekenfondsverzekering op te heffen, hetgeen geëffectueerd werd met de invoering van de Wet op de Toegang tot de Ziektekostenverzekering (WTZ). De ex-vrijwillig ziekenfondsverzekerden kregen recht op een standaardpolis met een gemaximeerde premie die aanzienlijk lager lag dan de gemiddelde verwachte kosten per verzekerde. Verliezen op deze standaardpolissen werden gepoold en middels een heffing verhaald op de overige (en later alle) particulier verzekerden. De premiedifferentiatie in de particuliere markt ging echter door. Toen de overheid in 1987 bovendien besloot de premiestijging niet langer via een

prijzenbeschikking te beperken, dreigde de ziektekostenverzekering voor de minder draagkrachtige particulier verzekerde bejaarden onbetaalbaar te worden. Via een wijziging van de WTZ in 1989 kregen voortaan alle bejaarden recht op de standaardpakketpolis met een wettelijk gemaximeerde premie. Door de invoering van de zogenaamde 'meerbetalersregeling' in 1991 kreeg iedereen die voor zijn polis meer betaalde dan deze wettelijk gemaximeerde premie het recht om zijn polis te verruilen voor een standaardpakketpolis. Door deze opeenvolgende overheidsmaatregelen heeft sinds 1986 een ingrijpende socialisatie van de particuliere ziektekostenverzekeringsmarkt plaatsgevonden. In 1992 was reeds bijna 40% van de omzet van particuliere ziektekostenverzekeraars (exclusief AWBZ) afkomstig van WTZ-polissen.
De ontwikkeling van de Nederlandse markt voor particuliere ziektekostenverzekeringen wijst uit dat zonder een adequate regulering concurrentie niet leidt tot een efficiënte financiële bescherming tegen ziekterisico's en evenmin tot voldoende financiële toegankelijkheid. Een terugkeer naar de traditionele particuliere ziektekostenverzekering gebaseerd op een door verzekeraars zelf tot stand gebrachte marktordening lijkt, met het oog op de steeds toenemende spanning tussen equivalentiebeginsel en solidariteitsbeginsel, niet realistisch. Zowel uit doelmatigheids- als uit rechtvaardigheidsoverwegingen zijn er dus redenen voor overheidsingrijpen.
De meest eenvoudige oplossing om iedereen een adequate financiële bescherming tegen ziekterisico's te bieden is de invoering van een retrospectief gefinancierde 'klassieke' volksverzekering, zoals destijds voorgesteld in de Structuurnota. De WTZ is op te vatten als een beperkte variant van de klassieke volksverzekering, zij het dat de uitvoering geschiedt door circa 60 particuliere verzekeraars. Een dergelijk financieringssysteem mist echter de stimulansen tot een doelmatige uitvoering van de andere functie van een ziektekostenverzekeraar: de regiefunctie. Een theoretische oplossing om een efficiënte uitvoering van zowel de verzekeringsfunctie als de regiefunctie te combineren is de invoering van een financieringssysteem waarbij verzekeraars per verzekerde naast een nominale premie een premievervangende risicogerelateerde bijdrage ontvangen, welke betaald wordt uit een met risicoonafhankelijke (en eventueel inkomensafhankelijke) premies gevuld fonds. Varianten van dergelijke prospectieve financieringssystemen zijn voorgesteld of worden reeds geleidelijk ingevoerd in landen als Nederland, België, Duitsland, Israël, Rusland en de Verenigde Staten. Maar er is nog veel onderzoek en gegevensverzameling noodzakelijk vooraleer deze systemen daadwerkelijk optimaal kunnen functioneren.

4 Werkzame concurrentie en mededingingsbeleid in de gezondheidszorg

In het tweede hoofdstuk is uiteengezet dat de corporatistische besluitvormingsstructuur in de Nederlandse gezondheidszorg een belangrijk struikelblok vormt voor fundamentele hervormingen. In *hoofdstuk 5* wordt nader ingegaan op belemmeringen voor werkzame concurrentie die voortvloeien uit de structuur- en gedragskenmerken van de belangrijkste deelmarkten binnen de sector gezondheidszorg. Een analyse van de markten voor ziektekostenverzekering, medische zorgverlening en ziekenhuiszorg wijst uit dat ondanks ingrijpende structuurveranderingen de kans groot is dat gezonde concurrentieverhoudingen worden verstoord door kartelvorming en machtsconcentraties. Concurrentie is niet de enig mogelijke en zelfs niet de meest waarschijnlijke reactie op de marktgerichte hervorming van het gezondheidszorgsysteem. Werkzame concurrentie tussen zorgverzekeraars wordt bemoeilijkt door de historisch gegroeide hoge regionale marktconcentratie van ziekenfondsen en de onevenwichtige verdeling van kennis en financiële reserves over ziekenfondsen en particuliere verzekeraars. De mogelijkheden voor concurrentie in de ziekenhuissector zijn begrensd door de beperkte geografische markt, de hoge en nog steeds toenemende marktconcentratie en de hoge toetredingsbarrières voor een groot deel van de klinische zorg. Op de markt voor medische zorgverlening zijn de belemmeringen voor werkzame concurrentie waarschijnlijk het grootst, door de aanwezigheid van krachtige beroepsorganisaties en de substantiële controle van de medische professie over de toetreding tot de markt. Tenslotte wordt de sector gezondheidszorg in zijn totaliteit gekenmerkt door een institutioneel verankerde traditie van collectieve onderhandelingen tussen representatieve organisaties van zorgverleners, zorginstellingen en zorgverzekeraars. Bij individuele zorgaanbieders en ziekenfondsen ontbreekt de ervaring met onderlinge concurrentie, terwijl bij particuliere verzekeraars nauwelijks ervaring bestaat met het contracteren van zorgverleners.

Het is dan ook niet verwonderlijk dat op de sinds het begin van de stelselherziening gecreëerde ruimte voor concurrentie door zorgaanbieders en verzekeraars voornamelijk gereageerd is met niet-aanvalsverdragen, samenwerkingsverbanden en fusies. Overigens is dit deels te wijten aan het (nog) ontbreken van een financieringsstructuur die partijen een substantieel financieel belang geeft bij doelmatig handelen.

Naar verwachting zijn de nadelige effecten van kartelvorming en misbruik van economische machtsposities door verzekeraars en zorgaanbieders groter dan in andere sectoren van de economie omdat de zorgvragers wegens hun relatieve ondeskundigheid en afhankelijkheid toch al in een betrekkelijk zwakke positie verkeren. De *wenselijkheid* van een meer marktgerichte opzet

van het stelsel van gezondheidszorg wordt uiteindelijk mede bepaald door de *mogelijkheid* om effectief op te kunnen treden tegen nadelige kartelvorming, misbruik van economische machtsposities en concurrentiebedreigende marktconcentratie. Een actief en effectief mededingingsbeleid is daarom een noodzakelijke voorwaarde voor werkzame concurrentie in de gezondheidszorg.

In *hoofdstuk 6* is onderzocht welke rol mededingingsbeleid kan spelen bij het bevorderen en handhaven van werkzame concurrentie in de gezondheidszorg. Hiertoe zijn de toepasbaarheid en effectiviteit van zowel het Nederlandse als het Europese mededingingsbeleid geëvalueerd. Bij aanvang van de stelselherziening in 1989 was het Nederlandse mededingingsbeleid onvoldoende effectief om concurrentiebeperkend gedrag in de gezondheidszorg tegen te gaan. Op grond van de Wet Economische Mededinging (WEM) werd tegen kartels en misbruik van economische machtsposities zelden (formeel) opgetreden, terwijl tegen fusies überhaupt niets kon worden ondernomen. Gelet op de beoogde snelheid van de stelselherziening in de gezondheidszorg zou het ontbreken van een daadkrachtig mededingingsbeleid een knelpunt kunnen gaan vormen. Maar terwijl de stelselherziening veel trager verliep dan beoogd en de mogelijkheden voor concurrentie in de gezondheidszorg slechts langzaam werden verruimd, werd de WEM in rap tempo omgevormd tot een potentieel veel krachtiger beleidsinstrumentarium. Belangrijke maatregelen ter versterking van het nationale mededingingsbeleid waren het verbod op (horizontale) prijsafspraken medio 1993 en het verbod op marktverdelingsafspraken medio 1994. Vooral voor de prijsvorming en het vestigingsbeleid in de zorgsector zijn beide maatregelen potentieel van groot belang, hoewel hun invloed beperkt zal blijven zolang de Wet Tarieven Gezondheidszorg (WTG) en Wet Ziekenhuis Voorzieningen (WZV) niet verder worden gedereguleerd. Conform het voornemen van de overheid zal de WEM rond 1997 moeten plaatsmaken voor een nieuwe, op Europese leest geschoeide, nationale wetgeving. Opvallend is echter dat in afwijking tot alle andere lidstaten van de EU (met uitzondering van Denemarken) de overheid geen nationale fusietoetsing wil invoeren. Juist voor de gezondheidszorg kan dit een serieuze tekortkoming vormen, gegeven de beperkte geografische markt en reeds hoge (regionale) marktconcentratie in de ziekenfonds- en ziekenhuissector. Voor het potentiële succes van de stelselherziening in de gezondheidszorg is het gunstig dat eerst de effectiviteit van het mededingingsbeleid wordt vergroot alvorens de mogelijkheden voor concurrentie worden verruimd. Overigens moet nog worden afgewacht of de aangescherpte mededingingswetgeving ook daadwerkelijk zal leiden tot een effectievere uitvoering van mededingingsbeleid.
Aangezien concurrentie in de gezondheidszorg vooral gestalte zal krijgen op lokaal en regionaal niveau, zal de invloed van het stringente Europese mede-

dingingsbeleid beperkt zijn. Kartelvorming, misbruik van economische machtsposities en onnodig sterke marktconcentratie behoort dan ook primair tot het domein van het nationale mededingingsbeleid. Bovendien legt de Europese Commissie steeds meer nadruk op de toepassing van het subsidiariteitsbeginsel, hetgeen betekent dat lidstaten primair verantwoordelijk blijven voor hoofdzakelijk nationale aangelegenheden. Op landelijke netwerken van afspraken tussen verzekeraars en zorgaanbieders zal het EU-mededingingsbeleid mogelijk wel van invloed zijn omdat in dat geval sprake kan zijn van handelsbelemmerende grensoverschrijdende effecten.
Tot op heden is er alleen in de Verenigde Staten ruime ervaring opgedaan met de toepassing van mededingingsbeleid in de sector gezondheidszorg. Van een aantal belangrijke antitrustzaken in de Amerikaanse gezondheidszorg is onderzocht in hoeverre zij relevant kunnen zijn voor toekomstig mededingingsbeleid in de Nederlandse gezondheidszorg. De Amerikaanse ervaringen wijzen uit dat een effectief mededingingsbeleid een onmisbaar element vormt voor het kunnen tegengaan van concurrentiebeperkend gedrag in de gezondheidszorg. De toepassing van het mededingingsbeleid in de VS leert dat van een beperkt aantal zorgvuldig geselecteerde zaken een significante preventieve werking kan uitgaan. Voor de toepassing van mededingingsbeleid in de Nederlandse gezondheidszorg betekent dit dat een gerichte en vroegtijdige aanpak van een aantal zware kartels (zoals prijskartels, marktverdelingskartels en boycots) van belang is om de speelruimte aan te geven voor toekomstig marktgedrag. Tenslotte wijzen de Amerikaanse ervaringen met mededingingsbeleid in de gezondheidszorg uit dat in verschillende zaken, zoals bijvoorbeeld bij sommige ziekenhuisfusies, een correcte toepassing van het beleid wordt bemoeilijkt door het ontbreken van een afdoende theoretische of empirische onderbouwing. De toepassing van mededingingsbeleid zal dan ook gepaard moeten gaan met nader theoretisch en empirisch onderzoek naar het functioneren van deelmarkten in de sector gezondheidszorg.

5 Epiloog

Concurrentie kan een nuttige rol vervullen ter vergroting van de doelmatigheid van de zorgverlening in verschillende deelmarkten van de gezondheidszorg. Maar de effecten van concurrentie zijn sterk afhankelijk van het institutionele kader waarbinnen de concurrentie zich afspeelt. In de gezondheidszorg kan de onzichtbare hand alleen haar werk doen als zij wordt gestuurd door passende regels die worden ontworpen, aangepast en gehandhaafd door de overheid. Daarnaast zal de overheid moeten zorgen voor een herverdelingsmechanisme waarmee middelen worden overgeheveld van de

relatief gezonde en vermogende burgers naar de relatief ongezonde en onvermogende burgers.
Het model van gereguleerde concurrentie dat ten grondslag ligt aan de sinds 1989 ondernomen fundamentele hervorming van het stelsel van gezondheidszorg biedt in theorie een deugdelijke oplossing voor een aantal fundamentele problemen die inherent zijn aan de markt voor gezondheidszorg. Maar de technische haalbaarheid van het model staat of valt met de mogelijkheid en de bereidheid om een aantal gecompliceerde problemen op te lossen. De volgende zaken verdienen daarom politieke prioriteit: (1) de ontwikkeling van een voldoende verfijnd systeem van risico-afhankelijke bijdragen hetzij voor verzekeraars (ter aanvulling op een nominale premie) hetzij voor consumenten (in de vorm van een geoormerkte subsidie); (2) de systematische verzameling en evaluatie van gegevens over het proces en het resultaat van zorgverlening ter beoordeling van de kwaliteit van zorg en de vertaling hiervan in toegankelijke consumenteninformatie; (3) het definiëren van een basispakket van noodzakelijke medische zorg. Voorts vereist de institutionele haalbaarheid van het model van gereguleerde concurrentie een actief en effectief mededingingsbeleid en een besluitvormingstructuur waarbij belangen en verantwoordelijkheden duidelijk worden gescheiden. Zelfs wanneer aan deze noodzakelijke voorwaarden is voldaan, is het model van gereguleerde concurrentie geen concept dat binnen alle geledingen van de gezondheidszorg even effectief kan zijn. Voor de financiering van zorg voor specifieke groepen chronische patiënten en voor de financiering en organisatie van collectieve en programmatische preventieve zorg is gereguleerde concurrentie als ordeningsprincipe minder geschikt.
De invoering van concurrentie in de gezondheidszorg verschaft de overheid geen alibi om comfortabel achterover te leunen. Het scheppen en aanpassen van een geschikt institutioneel kader om concurrentie in de goede richting te sturen, het handhaven van toegankelijkheid en solidariteit en het beheersen van de collectieve uitgaven aan gezondheidszorg is een zware opgave. De uiterst ingewikkelde informatieproblemen en de aanwezigheid van potentieel conflicterende doelstellingen inzake doelmatigheid, rechtvaardigheid en macro-kostenbeheersing maken eenvoudige oplossingen voor het ordeningsvraagstuk in de sector gezondheidszorg illusoir. Maar ingewikkelde oplossingen zijn voor politici en beleidsmakers moeilijk uit te leggen en in te voeren, vooral indien zij aanzienlijk afwijken van de bestaande situatie. De frustratie over de stagnatie van de hervorming van de Nederlandse gezondheidszorg heeft bij politici dan ook de overtuiging doen postvatten dat 'grand designs' onwerkbaar zouden zijn. Populair is de stelling dat het 'blauwdrukdenken' moet plaats maken voor 'incrementele' of stapsgewijze veranderingen. Maar incrementele verandering in welke richting? Zonder een notie van de gewenste

richting wordt gezondheidszorgbeleid een puur reactief proces. De suggestie dat 'grand designs' en incrementele veranderingen elkaars tegenpolen zijn, is onjuist. In een complex veld als de gezondheidszorg kan de invoering van een 'grand design' niet anders plaatsvinden dan door middel van een langdurig proces van formele stapjes, terwijl een aanpassing van de informele normen vaak nog geleidelijker verloopt.

Curriculum vitae

Frederik T. Schut (1960) attended Gymnasium B in Rotterdam from 1972 to 1978. He then studied economics and philosophy at the Erasmus University Rotterdam. In 1981 he received a bachelors degree in philosophy and in 1985 he graduated in economics, specialized in development and theoretical economics. In 1984 he was appointed as a student research assistant at the Department of Health Policy and Management (iBMG) to examine the performance of Health Maintenance Organizations in the US health care system. After graduation he continued to work at the iBMG, first as research assistant and since 1987 as assistant professor. He participated in successive government-funded (VF) research projects on health insurance and on the structure and financing of health care. The research findings have been published in several books and in national and international journals. In 1987 and 1993 he was co-organizer of international conferences on competition in health care.

Next to his research activities he teaches courses on health economics, the organization of the Dutch health care finance and delivery system and methodology of economics. He also made several contributions to textbooks for undergraduate courses in health economics and health policy.

For several years, he is one of the editors of the quarterly bulletin of the Dutch/Flemish Association for Health Economics (VGE). In 1993 he was a member of the Expert Committee of the government-sponsored program for stimulating innovative projects on improvement of the provision of information in health care (*Stimuleringsprogramma Volksgezondheid Transparant*). Since 1989 he is a member of the general board of the Netherlands Society for Public Health and Science (V&W) and since 1995 he is a member of the board of Health Center Mathenesserlaan in Rotterdam.