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# Comparative Health Care Systems

**Outline for an empirical application of New Institutional Economics approaches**

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**Abstract**[*]

In this paper we provide an outline for a theory-guided comparison of health care systems, based on institutional economics. Following positive principal agency theory, we propose to decompose health care systems into all relevant exchange relationships constituting the system. We discuss the inherent incentive problems and consider possible and implemented controlling mechanisms. Preliminary hypotheses are derived with regard to expenditure dynamics and reformability. Operationalizations and first results of several identified institutional features are presented. A preliminary analytical description of two health care systems illustrates future strategies of qualitative and quantitative comparisons.

## 1. Introduction

Fiscal constraints, budget deficits and international competition have initiated a lively debate on the institutional arrangements and the performance of health care systems in many developed and devloping nations. Due to technological innovation making new medical goods and services available, and due to the rising available income –at least in industrialized countries – we observe a trend towards more spending on health care. However, this global trend is only partly induced by the voluntary demand of consumers and its persistence makes it incompatible with economic policy objectives. As the political debates in most developed countries show, expenditures for health care are contested, i.e. the willingness-to-pay for these goods and services is not unanimous everywhere. Contested expenditures may be result of the simple amount of money to be paid by the patient and/or of the perceived inefficiency of the health care system (HCS). Inefficiency in the context of health economics means that vast amounts of resources are consumed without producing a proportional or significant increase in the populations' health status[1]. Recent attempts to explain why nations have large health care expenditures thus focus on the respective institutional factors and their effects of expenditures. This literature addressed the question, which institutional attributes mitigate or aggravate the problem of oversupply, respectively. Less attempts have been made with respect to genuinely political factors. However, some states with a low level of acceptance of the expenditures are persistently not able to reform their HCSs despite steady efforts.

[1] See WHO (2000: 150) for a definition of health status. This is not due to diminishing returns of investments in Health care Provision, if a certain level of provision is already reached. Developing countries, although having high returns on investment in Health Care, are not per se more efficient than the HCSs of industrialized countries. Some HCSs

Following more general observations by Persson/Tabellini: "... some policy decisions entail radical reforms of the status quo, whereas others require only marginal changes. In practice, this seems to be an important distinction: certain groups or key players often have de facto veto rights, and radical reforms of the status quo are politically feasible only if losing veto players can be compensated. But what is the source of this holdup power? How does it depend on the political system? " (Persson / Tabellini 2000: 480).

In order to identify the reasons for continuously and sometimes even dramatically increasing expenditures, policymakers and researchers focus on questions of control and reform (Saltman/Figueras 1997; Raffel 1997, Powell/Wessen 1999, Freeman/Moran 2000). Since institutions constituting health care systems (HCSs) vary across countries, systematic comparisons should reveal those factors inducing health care expenditures not demanded or even not accepted by relevant parts of the society. However, despite a large number of studies of HCSs, theory guided, systematic comparisons – the prerequisite for generalizations – are minority. As a rule, collections of cases studies prevail, often without a common theoretical framework. While offering interesting and valuable data on the structure, development and operation of national HCSs, generalizable insights of these studies as to expenditure dynamics and to 'reformability' of HCSs are limited. This applies even to most of the quantitative studies: despite taking account of quite many cases and providing high degrees of 'variance explained', these studies are often data/indicator driven and do not consider in detail the specific consequences of institutional arrangements on the observed outcomes ( see the critique in Gerdtham/Jönsson 2000).

Up to now it, remains unsolved, why states succeed differently in managing to provide accepted/uncontested amounts of health care expenditures, and/or why some states are able to reform their HCS more or less radically, whereas others fail persistently to adapt expenditures to citizens' willingness-to-pay. In this paper we provide a conceptual outline in order to tackle these problems. We argue that, in order to explain the aggregate outcomes 'expenditure', 'system effectiveness' and 'reformability', we have to understand the incentive problems inherent to specific actor constellations and institutional designs. We plead for an integrative and coherent micro foundation for the effects found on the macro level.

We argue, that inefficiency, like the waste of resources, can be explained by the specific design of principal agent relationships within a HCS as well as within the political system. Reforms of the HCS are possible to a different degree in different HCSs: Whereas several HCSs remain basically unchanged for a long time, others change in a fundamental way. We argue, that formal

reach a level of provision or a higher life expectancy with only a fraction of the resources used in other systems (see the indicators in WHO, 2000).

(organizationally fixed) controlling rights acquired by societal groups as well as their informal power, explain this variations.

In the following, we critically discuss previous literature on qualitative and quantitative comparisons of HCSs. Then, mainly relying on principal agency theory, we provide an overview of general concepts capturing the incentives of actors to abuse situations that are not fully contractible (section 3 ). We identify the most important exchange relations in national HCSs and assign the respective incentive problems as well as the applied / possible controlling mechanisms (section 4 ). We derive first hypotheses on institutional factors conducive to expenditures and (non)reformability and present preliminary operationalizations and results. Finally, we illustrate our approach with two illustrative case studies (section5).

## 2. Comparing Health Care Systems: A Critical Review of Previous Literature

In accordance with Freeman we define HCS as those institutions, actors and relationships that produce or maintain the health of the citizens (Freeman 2000: 1, see also Schulenburg/Greiner 2000: 175). The following section provides a short review of previous studies, theories applied, hypotheses derived, variables/attributes considered and results achieved.

Generally, the baseline categories for classifying HCSs are so-called national(ized) health care systems (NHS) systems, social insurance systems and market systems. Often, these basic categories are further differentiated along different institutional attributes, e.g. financing sources, public vs. private provision of health care[2]. The typology as proposed by the OECD (1994: 11/2), categorizes HCSs according to the provision of medical services (public vs. private), the main source of financing (tax vs. public or private insurance) and the method of payment for the providers. Wessen (1999) classifies HCSs according to the degree of market orientation and the corporatist vs. pluralist mode of decision making. This catalogue is extended to eleven structural attributes[3], which are proposed for the classification of HCSs.

This heterogeneity of proposed typologies and categorizations mirrors the enormous variability of institutional settings, regulations and characteristics of existing HCSs (see Freeman 2000: 5). As a consequence, we observe a predominance of indepth case studies[4] on HCSs, dealing with single/several aspects, whereas generalizations are scarce and limited to questions of expenditure

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[2] For a catalogue of attributes to be considered in comparisons, see Schulenburg/Greiner 2000: 176.

[3] Degree of medical dominance, role of payers, role of insurance, role of government, degree of specialization, degree of centralization, degree of pluralism in the system, sources of financing, methods of financing, methods of payment for providers, rigor of cost control methods. (Wessen 1999: 14-21)

[4] For Germany, see the case studies by Alber (1992), Bandelow (1998), Behaghel (1994), Döhler / Manow-Borgwardt (1991) Döhler/ Manow (1995, 1997), Knappe et al. (1989), Manow (1994), Perschke-Hartmann (1994), Rosewitz / Webber (1990), Röttgers (1999), Webber (1988, 1989) and Wille / Albring (1998).

levels (e.g. NHS systems usually produce lower levels of expenditures). Therefore, theory building is only in its beginning.

A synopsis of previous work, together with examples, is given in the following table:

Table 1: A Typology of HCSs Comparisons

| Number of cases in the study | Method of Comparison | |
|---|---|---|
| | qualitative | quantitative |
| Few cases (generally: pairwise comparisons) | Geva-May /Maslove (2000) Immergut (1990); Milde (1992), Hassenteufel (1996) Skocpol/ Ikenberry (1983), Navarro (1989), Maioni (1997). | |
| Many cases, (N ≥ 3) | Rosa (1990); Alber / Bernadi-Schenkluhn (1992); Mossialos / LeGrand (1999); Raffel (1997); Stepan (1997); Saltman /Figueras (1997); Freeman (2000); Powell /Wessen (1999); OECD (1994, 1996) Hoffmeyer / McCarthy 1994; Wilsford (1994) | Newhouse (1977)<br><br>Gerdtham/Jönsson/ MacFarlan / Oxley (1998);<br><br>Schmidt (1999); |

The existing empirical studies on HCSs differ with regard to their focus and research question, methods applied and the number of cases selected.

Qualitative studies focus on possible reasons for increasing expenditure as well as on questions related to the political reform and development of HCSs, for example: Why is a certain reform strategy chosen in a specific case and how are different reform measures working in different HCSs? (Saltman/ Figueras 1997, Freeman / Moran 2000, OECD 1994, 1996) Which effect has the political system on reforms in a HCS? (Immergut 1992, Geva-May /Maslove (2000). Which role do physicians play in reforms? (Hassenteufel 1996) What is the effect of previous reforms and developments on future reforms? (Wilsford 1994, Maioni 1997).

Most of these studies are confined to descriptions and derive their results exclusively from and for the cases considered. The qualitative comparative literature is often constituted by collections of cases studies, which are often not comparable, i.e. incommensurable, or by comparisons of few, usually two or three cases. The volumes by Alber / Bernardi Schenkluhn ( 1992 ) and (Hoffmeyer / McCarthy (1994) are among the few looking at problems of the HCS associated with actors in a

sytematic, actor oriented way. Despite questions of reform are a central theme, respective theories of reform are, not applied[5].

Quantitative studies, on the other hand, mainly focus on isolated factors considered as to induce growing expenditures, in order to isolate them for reform advices. Variables from various theories of different disciplines (health economics, political science), reaching from 'supply induced demand' (measured as the number of physician per capita and an interaction effect between this variable and the remuneration mode (Gerdtham/Jönsson/MacFarlan/Oxley 1998: 121) to 'etatist problem solving routines' (measured as the percentage of state expenditure of GDP, Schmidt 1999: 235), are included in the regressions. Usually, the most important factor for health expenditure is GDP (this result dates back to Newhouse 1977), whereas demographic factors proved to be insignificant (Gerdtham/Jönsson 2000: 46). Institutional factors vary in their effect: attributes with decreasing effect on expenditure are the gatekeeping power of physicians, i.e. whether the patient has to visit his physician, before contacting a specialist or hospital; direct payment by patients, that are later reimbursed; capitation remuneration for the physicians etc.[6]

The central problem of most of the quantitative studies is that they 'explain' the expenditures very well in terms of $R^2$, but that they lack explicit, micro-oriented hypotheses[7]. Instead, a "fishing expedition" mode of explanatory variable selection prevails. However, statistical correlations may be produced by different individual actions and aggregation processes[8]. The same applies to the effect of institutional features: The basic finding, that NHS systems produce significantly lower expenditures, can be questioned, because the variation of expenditures and efficiency (WHO Indicators, see WHO, 2000: 200ff) within this same group is enormous[9]. Indicators for institutional features are often relatively crude (e.g. "NHS" as a single category, age of democracy as a proxy for the power of interest groups). Therefore, what has been stated for political economics studies in general, applies also to the studies of HCSs: "The gap between theory and evidence is a final weakness of the existing literature … there is not a great deal of empirical work on these positive issues, and when there is empirical work, its ties to the underlying theory are often loose" (Persson/Tabellini 2000: 481) and: "Ideally, we would like more empirical work 'derived from

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[5] Cf. Tesbelis (1995, 2000) for a comparative politics perspective, Ribhegge, (1998) for a political economy perspective on reforms.

[6] For an exhaustive overview of quantitative comparisons and their results, see Gerdtham / Jönsson 2000.

[7] Gertham, Jönnson, MacFarlan and Oxley (1998:119) begin their empirical analysis with the statement „Several hypotheses, which sometimes overlap, are being tested, and there is little guidance from the theory concerning how the variables are related to each other and to the endogenous variable". In their overview article, Gerdtham and Jönnsson (2000: 19), sum up the predominant critique: "A first apparent problem is the weak theoretical base for the determinants of aggregate health expenditure, which provide little guidance as to the possible explanatory variables and the causal mechanisms involved".

[8] See, for example, the critique of the interpretation of the GDP variable in regressions by Parkin/ McGuire/ Yule 1987.

[9] The efficiency of a NHS, measured with the WHO Index, based on DALEs ranges form 0.883 (United Kingdom) to 0.976 (Italy), the expenditure per capita is 1824 in Italy and 1193 in the UK(see WHO 2000: 193/4 and 200).

theory' as opposed to 'informed by theory' " (Persson/Tabellini 2000: 481). What we need, therefore, is a strictly micro-oriented framework, allowing to identify the mechanisms that result into the macro level features like expenditures, efficiency, and reformability and the application of advanced strategies of comparison[10]. The conceptual frame should allow us to explain expenditure dynamics, efficiency and reformability of HCSs, and provide a base for a reconstruction of the findings in the extensive quantitative and qualitative literature on HCSs.

## 3. Neoinstitutional Economics and the Organization of Politics

As the review of literature has shown, most of the studies - implicitly -  contrasts market vs. state oriented HCSs. This crude distinction is not tenable under a New Institutional Economics (NIE) Perspective: "I will argue that the political process should be viewed as a game between many participants (principals) who try to affect the actions of the immediate policymaker (agent). What follows from these observations is orthogonal to, and perhaps destructive of, the whole 'markets versus governments' debate. The equilibrium or the outcome of the game will typically not maximize anything."(Dixit 1996: 2). NIE considers organizations (firms, governments, bureaucracies etc.) as governance structures, characterized by various agency relationships that are tied together by more or less complete contracts. Overcoming the neoclassical method of treating the organization as black box or by means of  production functions, NIE proposes to "understand the whole system consisting of markets and government with the whole set of problems of conflicting information, incentives, and actions that preclude a fully ideal outcome" (Dixit 1996: 2). Therefore, comparative institutional analyses are the only way out for generalizable propositions.

However, there is no integrated theory of NIE (cf. Richter /Furubotn 1996). This paradigm combines the theory of property rights, the theory of agents and transaction cost economics. Despite accentuating different aspects, each of them focuses on how social exchange and transactions are managed by and within institutions (contracts, hierarchies, markets). Relying on neoclassical economics, the common aim of these approaches is the explanation of the structure, the behavioral effects, the efficiency and the change of institutions: "The interest of economic analysis of institutions covers two main questions: a) Given specific problems of coordination in economic exchange, which (alternative) institutions show the lowest costs and the greatest efficiency? b) Which impact have coordination problems on the design and the change of institutions" (Ebers/Gotsch 1999: 199, translated).

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[10] See for methodological concepts in comparative politics King, Verba and Keohane (1994) and Landman (2000).

## 3.1. Principal-Agency Theory

The theory of agency relations is especially well appropriated for the analysis of the institutional design of HCSs and health care (politics). In the standard model of agency, the principal creates a scheme of incentives or penalties, such that the agent's behavior is forced, at least partially, in the direction that favors the principal's interest. The principal agent approach has only rarely been applied to the analysis of complete health care systems (see the studies of De Alessi (1989), the volume edited by López-Casasnovas (1991), Milde 1992; Mooney/Ryan 1993, Scott/Vick 1999, Breyer / Zweifel 1997 as applications to isolated relationships). The most far reaching analysis has been presented by Breyer and Zweifel, which we will take as a suggestion for further concretization and empirical testing. The relevance of the principal agent for HCSs arises from the fact, that the complexity of medicine and medical services results in enormous information asymmetries between the consumer and the providers of medical services. Both, health care goods and services as well as political goods are experience goods according to Nelson's (1970) definition. Experience goods reveal their quality only after purchase and consumption. Therefore, there is a high risk of buying bad quality. Combined with conflicting interests between the consumers and the multiple providers in HCSs, these information asymmetries give the actors multiple opportunities to mutually exploit the other side.

Asymmetric information occurs in two variations: In the case of hidden action, the agent may have available options for action, that remain unknown to the principal, even after the result of the agents' actions is observable. In the case of hidden information, the agent has information, e.g. on the state of the world, that is relevant for performing the delegated task, but unknown to the principal (Kräkel 1999: 22, Milgrom / Roberts 1992: 169). In our context, this information could be, whether a medical service or a medicine is necessary and helpful, etc. Optimally, all relationships in the HCS should be regulated by complete contracts among the actors specifying action in every contingency. Evidently, this is not feasible, due to the complexity of delegated tasks and actor/institutional constellations. Therefore, the contracts remain incomplete in so far, as the delegated task is only delineated in a general way, and the actors have considerable leeway to opportunistic behavior (Milgrom / Roberts 1992: 129). Opportunistic behavior shows up in two basic forms, moral hazard and adverse selection.

The concept of moral hazard has been developed in the context of insurance and describes "the tendency of people with insurance to change their behavior in a way that leads to larger claims against the insurance company" (Milgrom / Roberts 1992: 167). More generally, moral hazard covers all kinds of opportunistic behavior that occurs **after** the actors started their exchange relationship (see Dutta / Radner 1994; Homann / Suchanek 2000: 110ff). The concept of moral hazard covers he following incentive problems:

*Exploitation of hidden information*: The agent uses his information, or, the principals' lack of information, to oversupply the principal with services, that are neither necessary nor contributable to the objectives, the principal wants to achieve (see Schulenburg / Greiner 2000: 157ff). With this kind of opportunistic behavior, the agent directly extracts - financial - rents from the principal.

*Shirking*: An agent, who is hired to perform a task, practices insufficient efforts. If the principal is not able to monitor the agents' activities and the effort does not fully determine the result, the agent is able to shirk, i.e. to reduce his work effort, and to blame circumstances for an insufficient result (see Milgrom / Roberts 1992: 179).

*Hold Up*: The delegation of a task may necessitate the agent to make relation-specific investements. Due to the dependency (closure) of the principal, the costs occured by the agent are susceptible to be expropriated by the principal by renegotiations.

*Collusion*: Pincipals may hire a supervisor, to control the agent(s), by collecting information on the agents activities and the state of the world. Based on this information, the principal can chose an appropriate remuneration for the agent. However, supervisors may get bribed by the other agents to report wrong informations (cf. Tirole, 1986).

*Over-usage of common pool resources*: Once, actors have pooled their resources, e.g. within an organization promoting their goals, every actor has an incentive to act in a way that maximizes her benefits at the expense of all other contributors. Over-usage arises because contributions are broadly dispersed whereas the benefits of usage are concentrated to the individual. Costs are therefore not completely internalized. This kind of opportunistic behavior of the individual actors exploits the pool as a whole as well as the collectivity of the actors contributing to the pool. The pool exhibits features of a common property resource or a pure public good.

The concept of adverse selection covers phenomena and problems that are due to information asymmetries that persist **before** the actors start their relationship / enter a contract. The agent has private information with regard to his productivity and behavior. An optimal contract would differentiate between types of agents according to these characteristics. Under incomplete information, this differentiation is not possible, and the agent can use his private information to get a better contract than the one he would get, if all relevant information were known by the principal (Akerlof 1970; for an overview cf. Richter / Furubotn 1996: 150 and 217). At worst, adverse selection leads to the situation, in which the principal offers a work contract, that is only attractive to people, that are not apt to perform the task.

### 3.2. Incentive problems in (health care) politics

Application of NIE concepts to the political or health care system is not as straightforward as one might think: "Agency relationships are often more complex in the political than in the economic

context. Most important, it is not always clear who is whose agent" (Dixit 1996: 53). According to Dixit, the agency relationships in political systems are much more complex due to the fact of the prevalence of **multi principal agencies, multiple agencies, and multitask agencies**. Whereas information asymmetries in the political process are wellknown (cf. Calvert 1986), schemes for securing the fulfillment of promises are different from the economic setting. Due to the multiplicity of principals and agents, identification of contractors is difficult. Furthermore, the specification of contracts (votes/support for policy implementation) is loose and vague as compared to economic contracts (Dixit 1996: 48). According to Dixit, ".. incentives in such situations are very low-powered; instead the government agencies are subjected to various constraints" (Dixit 1996: 88). These constraints show up in the institutional allocation of ex-post safeguards / controlling rights. Checks and balances and the occurrence of multiple veto players[11] impose mutual constraints on the agents. Precise, distinguishable, e.g. of powerful incentive schemes are nearly absent in the political sphere, therefore "government agencies can stop things from happening but find it difficult to get anything positive done" (Dixit, 1996: 95 relying on Wilson 1989). These questions are treated formally in recent theories of multitask and common agencies (for a review see Dixit 1996: 98 ff.).

The situation of multiprincipal agencies is defined as the "...the existence of multiple principals, all of whom have some power to influence the actions of the agency. Their interests in the outputs of the agency are at least partly in conflict, and the agent's actions taken on behalf of different principals are substitutes. How do incentive schemes fare in such a situation? The general conclusion is that the power of incentives in the equilibrium among several such principal is weakened, sometimes dramatically" (Dixit 1996: 98). The pooling of principals being of advantage, at the same the problem of the distributing of cooperative benefits arises. Another problem, the sequentiality of the decisions of multiple agents, hinders the accountability and therefore induces inefficiency, too (cf. Bohn 1987, Kräkel 1999: 129-132). Analogously, the institutionally constrained competition, i.e. the lack of competing agencies in bureaucracies leads to increased inefficiencies (Tirole 1994).

The incentive problem as caused by multitask agencies is again the insufficient observability of the performing of different tasks. Typically, "political organizations are multi-purpose entities" (Dixit 1996: 60). Agents have to allocate their attention and efforts according to the priorities as set by the principal. Again, due to conflicting interests and only partial observabilty of the agent's efforts, the principal has to devise an incentive scheme in order to discipline the agent. The design of the optimal incentive scheme is a function of degree of observability of different efforts and results, as well as on the different valuations of the principal and the agent (cf. Dixit 1996: 96). From a social

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[11] For the concept of veto players with regard to reform of political system, cf. Tsebelis (1995).

welfare perspective, one has to note, however, that the performance of multiple tasks on the behalf of multiple principals requires the concept of efficiency to be adapted "Just as TCE (transaction cost economics) asks us to look at efficiency in an average sense over time, TCP (transactions cost politics) should tell us to look for efficiency averaged over time and function together" (Dixit 1996: 60). Whereas formal theory provides us with sophisticated incentive schemes, in policy practice they are seldomly applied because simple price caps are easier to understand for regulators as well as the public. (cf. Dixit 1996: 92).

The outlined theoretical framework will structure the comparison of HCS in the following. We ask for an adequate decomposition of HCSs into relevant institutional features? The starting point will be the constitutive exchanges / transactions of a HCS: Citizens as original principals delegate the provision of health care, by pooling their individual resources, to alleviate the financial risks associated with illness. In the extremum, all tasks are delegated to one agent, e.g. to the physician or the state. In general, however and due to the complexity of tasks, tasks have to be differentiated and delegated to specialized, public, semi-public and private, i.e. physicians and insurance companies, pharmaceutical industries. In this perspective, the HCS consists of a network of contracted exchange relationships. These relationships are characterized by asymmetric information and the prevalence of incomplete contracts: In the following we will specify all relevant relationships, their incentive problems and the controlling mechanisms applied.

### 4. Application to Health Care Systems: Relevant Principal Agent Relationships

Starting point of our analysis is the framework as proposed by Breyer and Zweifel (1997: 279 table 8-1, and 280ff.). The authors considers the delegation problem as the constitutive feature of HCSs. The immediate care taker (agent) of the patient is the physician. Due to problems mainly resulting from asymmetric information, the delegation results in non-optimal results for the patient. Therefore, so-called supplementary care takers are put in charge. The state, the insurance companies, but also the employers act as supplementary care takers in different systems. Breyer and Zweifel formally derive propositions on optimal contracting schemes. However, they confine their partial analyses to isolated relationships between the orginal principal and all respective care takers, thus leaving aside the complex interactions between all involved actors. In order to understand expenditure dynamics as a non-intended consequence of incentive problems within the system, we propose to extend the framework of Breyer/Zweifel and to take into account all relevant relationships in HCSs as well as their incentive problems and the controlling mechanisms applied. An interesting question will be whether there are interactions between the institutional features leading to non-accepted expenditures. Complementing Breyer/Zweifels' chains of delegation by

taking account of the relationships between the care takers we have to consider the following relations:

Figure 1: Possible configurations of actors and relationships in HCSs
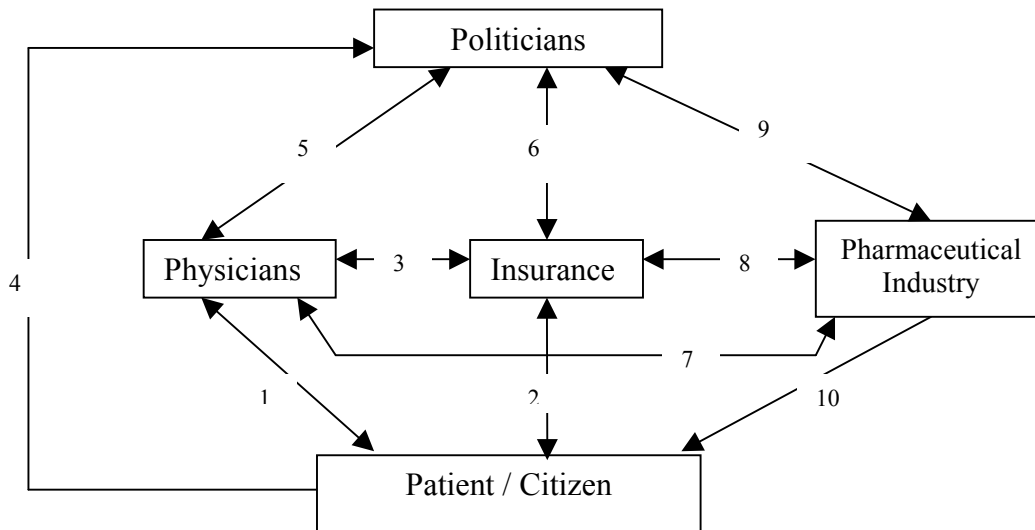


## 1a). Patient (Consumer) – Physician (Provider)[12] relationship

*a) Delegated Functions / Tasks*

The relationship between the patient and the physician is the most intensively studied in categories of principal-agency theory. The principal, the patient, 'hires' a physician, who applies medical services and goods of his choice (see Schulenburg /Greiner 2000: 148). As an expert, the physician has more information about the disease, possible countermeasures and respective probabilities of success of recovery.

*b) Incentive Problems*

This information asymmetry, combined with the physicians' control over the demand for his own services, potentially result in a so-called supply induced demand[13]. Supply induced demand is defined as the oversupply of medical services with no or only marginal utility for the patient, thereby increasing the physician's income (see Breyer/Zweifel 1997: 242 ff; Mooney/Ryan 1993, Santerre/Neun 2000: 431ff). Furthermore, the patient has no information about the quality of the services provided by the physician, and the result, recovery or persistent illness, may be independent of the quality of services/ and the physician's effort (Mooney / Ryan 1993: 132).

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[12] By the term 'Physician' we refer to all providers of medical services, including hospitals etc.
[13] See Rice (1984) for the theoretical background and Hay / Leahy (1982) and Breyer/Zweifel (1997: 242ff).

*c) Incentive Schemes / Control mechanisms and Constraints*

Several studies proposed optimal contracts and incentive schemes, that avoid supply induced demand and that guarantee, that the physician acts such, as the patient would have, if he had the same informations and knowledge (see Mooney / Ryan 1993: 132 for an short overview). However, in practice, the mechanisms implemented in HCS are much simpler, and mostly start at the remuneration mode. In general, the incentive schemes / control mechanisms are not designed by the principal, but by a caretaker, like the state or an insurance company[14]. The following control mechanisms can be distinguished:

*Control by the patient*: Due to the information problem, the control as exercised by the patient reduces to a "check" of the bill. In the case of direct payment by the patient and a following reimbursement by the insurance, the patient has the possibility to check, whether a billed service was actually provided. The incentive to actually exercise this check is given, when the patient pays a part of the bill, and missing otherwise.

*Control by the choice of an appropriate payment mode*: The providers' motivation to induce demand, is associated with certain types of payment, especially with fee for service payments[15]. In this mode, the providers income increases with the quantity of services supplied, so there is an incentive to increase the quantity. Other payment modes, like cost coverage (e.g. factor reimbursement) not only create the incentive to oversupply services, but also, to provide them in a cost intensive, inefficient way. The most efficient mode of reimbursement is a capitation mode, combined with free choice of the provider: The fixed budget sets an incentive to restrict the quantity of services to the necessary amount, and the patient's option to change the provider prohibits an under supply (Breyer/Zweifel 1997: 269ff ).

*Delegation of controlling rights to an agent*. If the original principal, the patient, is neither qualified nor motivated to perform any kind of quality or efficiency control, he may delegate the control task to an hired agent, with the necessary qualification (cf. patient - insurance relationship below).

## 2a). Patient – Insurance[16] relationship

*a) Delegated Functions / Tasks*

(Semi-) Public and private insurance companies, can be seen as agents, hired by the principal, to perform several tasks: pooling of ressources, organization and administration of the insurance,

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[14] „The standard theory of agency assumes that such schedules are set by the principals and will be, at least in part, a function of outcome. In health care, methods of remuneration are usually set by some third party (government or insurance companies). The question then becomes: how can we get this third party to define optimal methods of remuneration?" (Mooney / Ryan1993: 131/2)

[15] See Breyer/Zweifel (1997: 259ff) for a model based argumentation and Schulenburg / Greiner (2000: 151ff) for an informal argumentation.

[16] 'Insurance' covers all organizations that perform the task of insurances, especially the pooling of risks and resources.

controlling of the preformance of physicians, negotiating with the providers on the prices and reimbursement modes, control of the provider`s bills. In the optimal situation, the insurance operates at minimal costs, exercises strict control of the providers in order to avoid any extraction of rents, and gives all gained savings back to the principal (in the form of reduced premiums or extended coverage of services) (Breyer/Zweifel 1997: 298).

*b) Incentive Problems*

Being costly, the agent my not be willing to perform its controlling task (*shirking*). Furthermore, insurances may use their *hidden information on the real costs* to extract rents: Even if insurances minimize the rent extraction of the providers, they have no incentive, to give the savings to the principal, instead he may consume them as organizational slack[17]. The agent may overstate the administrative costs, and abuse some of the money for „on the job consumption“. For the original principal it is extremely difficult to detect shirking by insurance. If the premiums are rising, the agent may easily blame the providers or moral hazard on the side of the consumers.

*c) Constraints / Possible Control Mechanisms*

The degree to which insurances act in accordance with the principal's will depends both on the overall design of the HCS as given by political regulation, as well as on incentives to control. The central incentive to effictively control the providers and to effienciently administer the processing of the insurance, is to gain new members. This is only possible in a competitive system, where patients have the right to choose an insurance. Minimizing the rents extracted by the providers, administrating the insurance at low costs, and therefore offering low premiums and more services increases the number of customers and the profit[18]. The threat of exit and voice is a constraint, even in systems, where insurances are public or semi public. If patients have no free choice of the insurer, i.e. the allocation of customers is prescribed by the law or if premiums and covered services are fixed by the state, competition is non-existent. Effective competition is non-existent, if the premiums are not informative with respect to the internal efficiency and control activities to the insurance, which may be caused by adverse selection[19] and countermeasures introduced by the state, like risk equalization funds, which often disguise efficiency as well as inefficiency. In the case

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[17] In the case of non profit organizations, this problem may be even more salient than in the case of for profit organizations.

[18] In the case of for profit insurances the profit consists of money, e.g. the insurance appropriates the residual between premiums and expenditure. In the case of public non profit insurances, profit means the expansion of the administrative bureaucracy and the chance for the employees to rise in the hierarchy.

[19] The basic mechanism of adverse selection shall be explained briefly for the example of an insurance company: The insurance calculates a package of covered services and premiums, based on data for the population. However, the offer is attractive to people who know, that they will consume more services than calculated by the insurance, so called bad risks, and less attractive to good risks. Therefore, more bad risks accept the offer, and the insurance's expenditure is higher than calculated (see Akerlof 1970; Breyer /Zweifel 1997:162).). Some insurances may try to attract only good risks, like young, wealthy people, white collar employees, ("cream skimming") from other

of a monopoly insurance, the incentive to minimize the rents of the providers may exist, but there should be no incentive to give achieved savings back to the principal. (see Niskanen 1971).

### 1b) and 2b): Patients as consumers and moral hazard

*a) Character of the relationship*

In exchange for the payment of a fee or premium, the patient obtains services from the physician and from the insurance: the physician provides medical services and goods, the insurance provides a coverage of risks. Both relationships create a moral hazard situation resulting in opportunistic behavior of the patients.

*b) Incentive Problems*

The most important incentive problem is the overconsumption of resources in common pool to which each patient contributes: Here, opportunistic behavior means the individual patients' overconsumption of medical services[20], i.e. he consumes more services, than he would, if he would have no insurance. Private information in the moment of contracting can be used by the patient to exploit the insurance: The patient has more information on his health status, his demand for medical services and his health relevant behavior. If the insurance could offer a risk equivalent contract, the patient's contributions would vary with individual properties (if the patient would reveal his private information honestly). If the insurance is obliged to offer a standard contract, the patient benefits from contributions being lower, than would be appropriate (adverse selection of insured by a standard contract offer). Furthermore, the patient may understate his willingness to pay vis-a-vis the insurance and the state, in order to minimize his contributions.

*c) Possible Control Mechanisms*

To avoid a opportunistic consumption behavior of the patients, two kinds of control mechanisms are applied:

1.  Insurances design incentive compatible contracts that minimize the patients' moral hazard in a way, that no patient has an incentive to exploit the common pool. The design of such contracts is a central theme in economics of contracts and health economics (see Pauly 1974; Breyer/Zweifel 1997: 190ff; Schulenburg/Greiner 2000: 40). A usual instrument are copayments, that make the costs of the service provision noticeable for the consumer.

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insurances, which worsens the risk structure of these. (see Beck / Zweifel 1998: 186ff and 211; Pauly 1974 and Leber 1992: 170).

[20] The problem arises form the fact, that the cost of medical services are pooled, whereas the benefit is individual. As payers, the patients have an interest, that the HCS is not exploited, as a receiver of services, they have the interest, that everything possible is done, to increase their health (López-Casasnovas 1991: 2): If medical services are free of charge, the patients have no incentive to restrain their consumption. Opportunity costs, like time, are the only limit (Schulenburg /Greiner 2000 :71ff). This "zero cost mentality" should increase the overall level of expenditure and consumption in a HCS continuously (Oberender / Fiebelkorn-Bechert 1998: 102).

2. Parallel to the first mechanism, the collectivity of patients can delegate controlling rights to the financing organizations and physicians, or create incentives, that induces both of them to make sure, that all patients only receive services, that are necessary. In practice, this means that the physician and the insurance have the right to refuse requests by patients.

## 3) Insurance – Physician relationship

*a) Delegated Functions / Tasks*

The providers are also agents of the insurances. They have to provide health care of acceptable quality for the organization's customers in an economically efficient way. The financing organization serves as an agent, a caretaker, of the original principal, but at the same time the providers' principal (see Breyer/Zweifel 1997: 278).

*b) Incentive Problems*

In this relationship, the exploitation of hidden information by the physician, is prevalent.

*c) Possible Control Mechanisms*

The design of the control mechanisms differ largely between different HCSs. Possible designs are:

- In the case of an HMO, the provider is employed by the financing organization, which has therefore extensive, hierarchical controlling rights.

- In a corporatist HCS, control is more difficult to be exercised, because both sides interact with equal rights. Control is exercised jointly, usually by committees in which demand and supply are equally represented.

- In a national health service, the state has integrated both functions, financing and provision, and all actors are under direct, hierarchical control of the state, resp. the bureaucracy.

## 4) Patient – Politician relationship

*a) Delegated Functions / Tasks*

Politicians are delegated in a more fundamental way to implement the overall design of the organization of the HCS, to control its functioning and to smooth expenditures. Thus, politicians decide on the allocation of property controlling rights within the HCS. The following, general organizational forms can be distinguished.

Pure market systems are characterized by a decentralized coordination of autonomous demand and provision of health goods. Patients, in the case of an illness, buy health goods according to their valuation of these goods. Due to the features of these goods (experience goods, trust goods), patients bear a huge financial risk, and are exposed to opportunism of the physicians. Private insurance companies supply at least a coverage of the financial risks. Competition of physicians

and insurances is supposed to alleviate problems of information asymmetries. Note, that even the organizational form of a pure market system has to be implemented and guaranteed by political regulation. However, politicians restrict their activities to a control of the functioning of the market system.

In a centralized HCS, the politician vertically integrates all tasks within the public administration. The budget is politically fixed and tax-financed.

Most of the time, politicians delegate the management of health care to semi-public agencies that are entitled to coordinate themselves. Within this category we find an enormous richness of institutional variations. These agencies are more or less independent in negotiating among themselves the central parameters of the HCS and the operation of the system. They may be bureaucratic organizations or professional corporations with obligatory membership entitled to determine expenditures. The involvement of the state is variable: he may reduce his activities to the control of quality or he may retain full control over central aspects, like the budget, even if the budget is not raised by the state through taxes. The internal organization of the agencies may be monopolistic (national health insurance), but also have some elements of competition.

In reality, we find mixtures of these general system types with different degrees of decentralization, competition, delegation and incentive problems.

*b) Incentive Problems*

Evidently, incentive problems vary with regard to the prevalent system type. Whereas market –like systems are characterized by the now wellknown transactions costs of using the market, incentive problems of state centered systems are covered by traditional theories of Public Choice: log rolling/cycling and common pool resources (Weingast/Shepsle/Johnsen 1981) , capture by interest groups (Olson 1985 and Stigler 1971), maximization of the budget by the bureacracy (Niskanen 1971 ), fiscal illusion (Buchanan / Wagner 1977), etc.. The creation of agencies involves quasi-automatically the incentive to deviate from the original mandate (for an overview of the literature cf. Carroll/Spiller/Teece 1999: 78).

*c) Constraints / Possible Control Mechanisms*

The control of the politicians by the citizens is difficult: there is a lack of 'high-powered incentive schemes' in the political arena (Dixit 1996: 61). The control of the politician is exercised by the citizens through elections, which sets an reelection constraint for the control activities of the politicians. There is an intimate connection between policy outcomes and electoral systems and other aspects of a country's constitution that are not yet fully understood (cf. Persson/Tabellini 2000): Wheras majoritarian electoral system tend to produce single-party government, PR systems tend to produce coalition governments. Due to requirement of approval of all coalition partners, these systems generate moderate outcomes. Other perspectives accentuate the veto or blocking

power of such fragmented system. A systematic approach to such institutionalized, fragmented political system has been proposed by Tsebelis (2000) who argues that the higher the number of veto players, and the higher distance between these actors, and the higher the internal dispersion (in the case of collective) actors, the smaller the chance for a removal of the status quo.

As the control of state created agencies is concerned, Noll (1989) reports several mechanisms of political control including appointment power, control of the agency's budget, and concrete targets.

Being an integral part of the tasks that are delegated by the patient to the physician and the insurance, the following relationships will be discussed only briefly:

### 7) Physician - Pharmaceutical Industry Relationship

*a) Delegated Functions / Tasks*

The physician has to guarantee that the patient receive medical products and services that are both as effective and as cheap as possible.

*b) Incentive Problems*

There is a danger of a collusion of pharmaceutical industry with the physician, the latter getting bribed by the first in order to prescribe too many medical products, products that are expensive, and products that are ineffective.

*c) Constraints / Possible Control Mechanisms*

The politicians may restrict the advertisement activities of the pharmaceutical industry, especially the advertisement addressed to the physicians. A possible incentive scheme is the fundholder model, where the physician receives only fixed budget per patient, form which he has to pay medical services as well as pharmaceuticals. The state, and/or the insurance, and/or physicians may restrict the number of pharmaceuticals by creating positive / negative lists.

### 8) Insurance - Pharmaceutical Industry Relationship

*a) Delegated Functions / Tasks*

The insurance has the task to collect information for an evaluation of the appropriateness of medical products and services. Sometimes, insurances are involved in setting/negotiating pharmaceutical prices.

*b) Incentive Problems*

The main incentive problem is a possible collusion among the pharmaceutical industry and the insurance, at the expense of the patient.

*c) Constraints / Possible Control Mechanisms*

Competition between insurance companies may alleviate the incentive problems.

### 10) Patient - Pharmaceutical Industry relationship

*a) Delegated Functions / Tasks*

The patient aims to buy medical products that are both effective and cheap, but has no information on the effectiveness or the appropriateness of the producer.

*b) Incentive Problems*

The pharmaceutical industry may use its informational advantage to charge higher prices and to offer products of low quality.

*c) Constraints / Possible Control Mechanisms*

The patient may hire a specialized caretaker, deciding which products to be consumed. Again, competition may be a constraint for the pharmaceutical industry: In the in-patent sector, the pharmaceutical enterprises compete by creating medicines that are more effective than the existing ones, in the out-patent sector, they compete over the price mechanism.

*Summary: Agency relationships in HCSs and expenditure*

This short review of agency relations, their inherent incentive problems and possible/applied controlling mechanism was executed in order to prepare an integrated view on health care systems and health expenditures. The theory-driven perspective should allow to obtain new insights into the diversity of institutional rules and their impact on expenditures. Relying on agency theory in general and on the literature on public spending, we have to derive hypotheses on these relationships. According to agency theory, inefficieny, i.e. non-intended expenditures, should increase the higher the number of agency relationships related to the budget producing process. This effect should be aggravated, ceteris paribus, the higher the number of relationships that are not controlled by appropriate control mechanisms, and the lower the appropriateness of the implemented controlling mechanisms. These general hypotheses haven been applied and, at least, partly confirmed in studies on public spending and budget deficits. Their results indeed point to the fact, that the fragmentation of the system (with regard to the number of participating actors)[21] and the transparency of the budgeting process is crucial for the outcome.

Whereas numerous studies on budget deficit spending have developed ingenious measures of fiscal institutions conducive to public deficit spending as well as of the respective control mechanism,

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[21] "The more fragmented the budget process I, the less indivdiual actors take into acount the externality created by the gereal tax fund, the larger is the bias toward higher spending and larger deficits. Fragmentation can arise when there are many actors involved in the budget process, and when the decision-making processes in which these decision makers interact diffuses power. Centralization of the budget process involves institutional provisions conducive to internalizing the externality. This can be achieved by limiting the number of actors in the budget-making process, by centralizing budgeting authority in the hands of a fiscal entrepreneur, or by implementing decision-making rules, such as cooperative bargaining processes, among the relevant actors" (Poterba/von Hagen 1999: 3).

reaching from a dummy variable approach to additive indices (for an overview see Alesina/Perotti 1999), in health care economics we are only at the beginning of such empirical work.

## 5. Empirical application

In order to statistically investigate the differential effects of institutional features leading to an increased propensity for expenditures, we have to operationalize the identified incentive problems and of controlling mechanisms applied. Learning from experiences of empirical investigations of public deficit spending literature we should be aware, however, that political as well as societal institutions must themselves be regarded as endogenous.[22]. Thus, institutional attributes are not well-suited as explanatory variables (Alesina/ Perotti 1999: 15). However, Alesina/Perotti soften their assessment by pointing to the status quo bias of existing institutions: "since it is costly and complex to change institutions, the existing ones have to be very unsatisfactory before it is worth changing them; as a result there is a strong ' status quo' bias in institutional reforms. Therefore, at least up to a point, one can use institutional features as explanatory variables" (Alesina/ Perotti 1999: 15). Statistical analyses should, however, be complemented by case studies systematically investigating the building of these institutions. In this section we present several health care system attributes and their expected effects on expenditures. Some of these effects have been already tested empirically by Gertham/ Jönnson / McFarlan / Oxley (1998), such that we can at least 'test' some of our hypotheses with secondary data. Then we delineate our approach with two illustrative examples of HCSs, where we also pay attention to political factor influencing reformability.

Table 2 shows a preliminary collection of institutional features and variables considered as relevant for expenditures in health care provision. Part 1 of the table focuses on the relationships among actors in the HCS, i. e. whether appropriate control mechanisms are implemented or, on the contrary, wether the institutional features set an incentive for the actors to engage in rent seeking activities. Some of the features simultanously have an impact on several relationships[23], but are mentioned only once. The institutional features and their expected effects on the expenditure level (column "expected effects") relate to the incentive problems and control mechanisms as discussed in section 4. The patient-physician / insurance-physician relationship captures, whether mechanisms exist, that preclude opportunistic behavior on the side of the provider (e.g. physician). The variables

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[22] "…acknowledge the potential econometric problems that are posed by the fact that budget rules are not randomly assign to nations or subnational jurisdictions, but rather are the product of deliberate choice by voters or their elected representatives. This makes it difficult to evaluate observed correlations between budget rules and budget outcomes: perhaps the observed relationships are simply due to a correlation between a third factor, voter preferences, and these observed manifestations of voter preferences" (Poterba / von Hagen 1999:11).

[23] E.g. copayments may work as a control mechanism for opportunistic behavior by the patients, but also as an incentive for the patient to control the quantity of the services provided by the physician, because he has to pay at least a part of these. Capitation remuneration is an incentive scheme addressing the providers, which prohibits the exploitation of the providers superior knowledge in both the patient-provider relations and the insurance provider relation.

in the patient-insurance relationship ask, for example, whether there are mechanisms (e.g. competion), that ensure that the insurance acts like a care taker for the patient are implemented.

The third group of variables looks for mechanisms that control moral hazard on the side of the pharmaceutical industry, e.g. whether the state instates mechanisms that restrict the medicines avaible for prescription to those, whose effects are ascertained. The fourth group of variables captures institutional features that should contribute to avoid moral hazard on the side of the patient, i.e. overconsumption of medical services. Mechanisms to avoid opportunistic behavior by the politicians ( collusion with special interests ) are difficult to operationalize, but the possibilities to perform control may be approximated by the variables in group 3.

The variables in part 2 of table 2 relate to the features of agencies, i.e. (semi)public or private organizations, delegated for the steering and the operation of the HCS. If such agencies exist, they have an inherent tendency to influence, within the given "constitutional" setting of the HCS, the operation of the HCS in a way, such that the rents to the agency members ( e.g. physicians, insurance ) are maximized. The existence of agencies bears the problem of collusion of interests, often preventing the intended competition between them. Relevant control mechanisms as identified by the literature are the appointment of the agencies` directors by the state, the assignment of the budget etc. ( cf. Noll 1989 ).

The variables in part 3 of the table are indicators for the reformability of a political system, as derived by Tsebelis` (1995) veto players approach. Accordingly, we hypothesize, that in the case of contested expenditures, a political system with a high potential for policy change will reform his HCS, to reduce the expenditure or at least to reduce the growth of expenditure, whereas political systems that are unable to enact reforms, do not have this option, and must therefore tolerate higher expenditure levels / growth rates.

In the last column "GJMO1998", we have included effects for the variables as used by Gertham, Jönnson, MacFarlan and Oxley (1998: 126) whose study is the first to extensively include institutional features[24]. Most of the time, these are dummy variables capturing features which we called control mechanisms for principal agent relations.

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[24]    However, as we have shown, without a common theoretical frame.

Table 2: Refined Hypothesis and preliminary empirical Information

| Relationship / Agent | Institutional feature of the HCS / political system | Expected effect on expenditure | Effect found by GJMO 1998 |
|---|---|---|---|
| **1. Attributes of Relations** | | | |
| Patient - Physician Relationship and Insurance - Physician Relationship | Capitation remuneration for physicians | -- | Negative, significant |
| | Fee for service remuneration | ++ | Positive, significant |
| | Salaried physicians, working for insurance companies (HMO) or state | - | Negative, insignificant |
| | Payment by the patient with remuneration by the insurance | - | Negative, significant |
| Patient - Insurance Relationship | Variable co payments by the patient in the contract | - | |
| | Variable coverage of services / variable premiums in the contracts | - | |
| | Monopolistic insurance | ++ | |
| | Risk equalization among the insurance companies | + | |
| | Free choice of insurance | - | |
| Control of moral hazard on the side of the Pharmaceutical Industry | Price Control for pharmaceuticals by the state | -- | |
| | Listings for pharmaceuticals | - | |
| | Per Capita budget for medical products for the physician | - | |
| | Price negotiations among the insurance and the pharmaceutical industry | -- | |
| Control of Moral Hazard on the side of the patient | Gatekeeping by physicians | - | Negative, significant |
| | Insurance based on pure solidarity | + | |
| | Full coverage of all expenses | + | |
| **2. Attributes of Agencies in the HCS** | | | |
| | Agencies with administrative tasks only | ++ | |
| | Appointment of the agency's director by the state | - | |
| | Agency`s budget allocated by the state | - | Negative, significant (overall budgeting) |
| **3. Attributes of the political system** | | | |
| | Number of veto players | + | |
| | Internal Cohesion within veto players | + | |
| | Heterogeneity of veto players | + | |

**++** strong increasing Effect on expenditure
**+** increasing effect on expenditure
**-** decreasing effect on expenditure
**--** strong decreasing effect on expenditure

In their analysis, the institutional features that we show in the table, have the expected effect, and confirm hypotheses as derived by the NIE approach.

The main problem for future empirical application will be the institutional variations within cases sharing one common institutional feature. Institutional environments of HCSs are complex and therefore difficult to model. Analogously to public deficit literature, one could develop numerical indices summarizing key aspects of the institutions and to be included into regression analyses. However, as Alesina/Perotti (1998) point out: "Such additive indexes assume a strong form of substitution between different components of the budget process, and there is little evidence to support the assumptions underlying such aggregation" (1998: 12). Therefore, in order to do full justice to the complexity of real HCS we need a detailed collection of structural data. To capture the effect of institutional designs of HCSs on expenditure, the analysis of the effects of global structural features, like "number of the physicians per capita", are insufficient. Even the more refined variable "self employed physicians per capita" as such can`t explain much variance in our view – self employed physicians may be paid on a fee for service basis with fixed prices, a capitation method or get reimbursed for what ever costs arise. According to the NIE approach, the existence of a certain agency relationship alone is not sufficient to predict effects on the expenditure level. Therefore it is necessary to control for, whether and to which degree the incentive problem inherent to this relationship is controlled by an appropriate mechanism.

### 5.2. Two analytical case studies

Two examples may illustrate the application of an incentive oriented approach:

*a) Great Britain*

Due to the electoral system and several other constitutional features (e.g. `strongly structured parties`), the British political system has only one political veto player (cf. Tsebelis 1995). The government can propose and enact policy changes without having to consider an opposing second chamber[25] or courts. The NHS model implies powerful, centralized control competencies assigned to the Department of Health. There is no delegation of self governance to societal actors. If the expenditure of the HCS rises in a way incompatible with other departments interests, the political actors are relatively free to change the system even in a fundamental way and have done so in the past. Whereas the bureaucracy cannot be completely controlled, the `last providers`, are well

controlled: A high fraction of the medical personal, especially in hospitals, is salaried, and has therefore no incentive to extend the quantity of medical services provided. In the domain of the self employed physicians, capitation remuneration and the fundholder model sets incentives for a restriction of the medical services supplied to the patients. Pharmaceutical prices are negotiated between the state and the pharmaceutical enterprises, and the state is able to use his position as the representative of the aggregated demand of a the society as a leverage

*b) Germany*

The German political system has many veto players: The coalition government usually consists of two parties, the second chamber is necessary for the approval of a large part of the legislation and - due to the tendency of `divided government` situations, is often controlled by non-governmental parties. Individual citizen are entitled to appeal to the constitutional court against a law, and have done so in the past (e.g. sued against the restriction of the number of physicians by the state). The HCS is de facto managed by corporative actors with obligatory membership, the insurance companies and the physician association, which negotiate all central parameters ( service catalogue, prices, reimbursement method ) of the HCS. The links among political veto players and interest groups are strong, with the FDP (liberals) – physician link as a prototypical example[26]. In view, Germany is the typical case of a stable, not reformable system that permits only gradual and very small policy changes. For this reason, radical measures against increasing expenditures are not possible, and the expenditures can increase constantly, even if large groups are opposing this development. The incentive problems in the administration of the HCS as well as in the provision of health are poorly controlled. The remuneration is mostly by fee for service in the case of the physicians, and per diem for the hospitals, which sets an incentive to oversupply services and keep patients longer in the hospital than necessary. The possibilities of the insurance companies to control the behavior of the providers are weak, most of the control is exercised by joint committees of physicians and insurance companies resp. by internal review mechanisms of the physicians organization. The corporatist governance of the HCS creates possibilities for the collusion of interests at the expenses of the citizens. The pharmaceutical enterprises sets the prices, and neither the physician nor the patient have an incentive to replace expensive medicines by cheaper ones.

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[25] The second chamber has only a suspensive veto, e.g. can temporarily block a bill, at maximum for a year (Tsebelis 1995, Stoiber/Thurner 2000 )

[26] The Health Care Reform 2000 may considered a result of the loss of veto power by an political actor (FDP), who was and is controlled in questions of health reform by the physicians. The most recent developments, like the abolition of the physicians` collective responsibility for the budget for pharmaceuticals, are indicating in our view that the physicians` indirect veto power is considered by the governing political parties and that we move to an even more consensual mode of concertation in the health care domain, than before.

## 6. Conclusion

Health care systems can be considered as networks of -more or less completely- contracted delegation relationships. We discussed the incentive problems inherent to the most relevant relationships and frequently applied control mechanisms. We pleaded for an exclusive theoretical frame taking account of the interplay of many actors, societal as well as political, constituting national health care systems. We provided first hypotheses, variables and results as generated by this approach. Necessary next step consists in a more stringent derivation of hypotheses, in operationalizing institutional attributes, and in applying innovative econometric tools. What we should learn from studies on public deficit spending is that different methodologies should be applied as complements rather than substitutes (Poterba/von Hagen 1999: 4).

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