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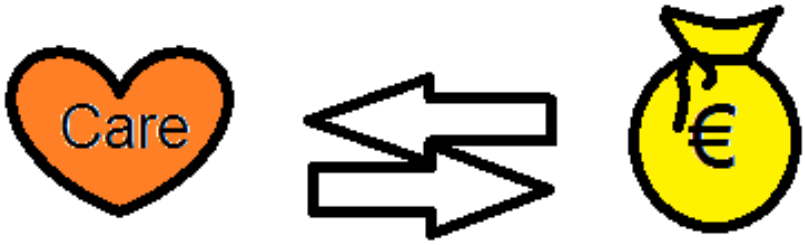
Hospital-Insurer Bargaining

Perceived Positions & Determinants



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1. INTRODUCTION

This thesis focuses on hospital-insurer bargaining in a market-based health care system. In this chapter I will further specify and clarify what this research will be about.

1.1 BACKGROUND & RELEVANCE OF THIS RESEARCH

In the Netherlands, very little research has been done on the topic of insurer-hospital bargaining. The Netherlands Competition Authority (hereinafter: NMa) is interested in this bargaining process, since it can broaden their view on the health care market. The current assumption is that having a large market share leads to a strong bargaining position. In practice, the picture might be more complicated. More determinants, next to the market share and market concentration, may influence the bargaining process between the hospital and health insurer. To give some examples, one might think of the relationship between the insurer and the hospital, a hospital's reputation among its patients, the quality of care delivered, or the insurer's ability to channel patients.

In this thesis it is investigated what determinants might influence the perceived bargaining position of the hospital and the health insurer.

To the NMa, this research might lead to a better understanding of the bargaining process and it will give insight into whether the current framework, when for example assessing proposed mergers or litigating possible cartels, is sufficient or if other determinants should be considered as well. This research seems also relevant for the Dutch Healthcare Authority (hereinafter: NZa), since it might contribute to their knowledge as well about the functioning of the current health care system and more specifically on the care purchasing market. If the factors that determine (i.e. the determinants) the perceived bargaining position are clarified through this research, the NZa could also pay attention to these factors when monitoring the care purchasing market.

To society, this thesis is relevant in an indirect manner: consumers of health insurance and health care can only benefit from competition if the competitive markets are functioning properly and therefore well monitored. The NMa and NZa play an important role in this monitoring process. This thesis, as argued above, may help the NMa and NZa in this monitoring role as it will gain insight in the care purchasing market. Indirectly consumers of health insurers and health care will benefit from this, since it might lead to the NMa and NZa being better able to monitor the markets and therefore will be a step towards a fairer market.

Finally, this thesis adds value to existing research about bargaining positions and bargaining processes in deregulated hospital markets. Much of the current research is based on market shares and market concentration as determinants of bargaining positions. However, much of the bargaining process is left unexplained. Moreover, much literature on this topic is based on health care markets in the United States. This thesis will therefore add to the very limited existing Dutch research on this topic.

1.2 OBJECTIVE & RESEARCH QUESTIONS

Before stating the objective and research questions first the word “bargaining position” needs to be defined. In this thesis the following definition is used:

The degree to which a party can realize its own goals while having to negotiate with another party that has (at least in part) different goals it wants to accomplish.

“Bargaining position” will be used interchangeably with “bargaining power”, “negotiation power”, and other similar names throughout this thesis. In case of the discussion of literature (chapter 3), often the original terms of the articles are used as to stay as close to the meaning of the writers as possible. The above definition was mainly for my own use and was not used in the communication to interview respondents or questionnaire respondents, as to keep respondents as open-minded as possible. The reason for this last point is because the research is about the *perceived* bargaining position, thus the bargaining position that is perceived or experienced by the negotiating parties. Stating a strict definition beforehand would perhaps have limited the respondents’ view on the bargaining process and therefore the definition was left to the respondents’ own interpretation.

The main objective of the research is *to obtain an overview of determinants that influence the perceived bargaining positions of Dutch hospitals and health insurers*. The accompanying central research question therefore is:

How do both Dutch hospitals and health insurers perceive their bargaining position and what determinants seem to influence their perceived bargaining positions during the bargaining process?

The determinants are the factors that influence the way insurers and hospitals perceive their own and each other’s bargaining position. A determinant from economic theory, and the most obvious determinant, is the market share of the hospital and the insurer. However, other determinants might influence this perceived bargaining position, for example the type of hospital, the case mix of a health insurer, bargaining skills, etcetera.

Subquestions, following from the central research question outlined above, for this research are:

1. *What do we know from the international literature about (i) insurers’ and hospitals’ bargaining clout and (ii) the outcomes of insurer-hospital bargaining?*
2. *How do Dutch hospitals perceive their bargaining position during the bargaining process?*
3. *What determinants influence the perceived bargaining position of the Dutch hospitals during the bargaining process?*
4. *To what extent do these determinants influence the perceived bargaining position of Dutch hospital during the bargaining process?*
5. *How do Dutch health insurers perceive their bargaining position during the bargaining process?*

6. *What determinants influence the perceived bargaining position of the Dutch health insurers during the bargaining process?*
7. *To what extent do these determinants influence the perceived bargaining position of Dutch health insurers during the bargaining process?*

Subquestions 3 and 6 are qualitative questions: *what* determinants influence the perceived bargaining position? Subquestions 4 and 7 are an attempt to quantify the determinants found in subquestions 3 and 6: *how much* do these determinants influence the perceived bargaining position? Therefore, in this thesis different research methods are used to answer the different types of questions.

1.3 STRUCTURE OF THIS THESIS

This thesis contains five chapters and several appendices with additional, more detailed information. Chapter 2 will explain the methods used and the underlying reasoning for choosing these methods. As one will notice, the research consists of two stages:

(1) literature research and interviews to answer the aforementioned subquestions 1, 2, 3, 5, and 6;
(2) a questionnaire to answer subquestions 4 and 7.

Together, the results will give an answer to the main research question. The results of stage 1 of the research will be described in chapter 3, first describing the results from literature followed by the interview results. Stage 2 results are presented in chapter 4, which will also contain some quantitative analyses. Chapter 5 concludes, answers the main research question, discusses the limitations of the research, and words the possible policy implications of the research and its relevance to the NMa.

2. RESEARCH METHODS

This research is divided in two stages, the first stage being the input of the second stage.

2.1 RESEARCH FIRST STAGE

The first stage of the research consists of the literature research and interviews. The methods will be further explained in the following subsections

2.1.1 LITERATURE RESEARCH

For the whole thesis, and thus also the literature research, the focus was on two aspects: (1) the bargaining position of hospitals and insurers; (2) the factors/determinants influencing the bargaining position. I will use the terms 'factors' and 'determinants' interchangeably, both defined as the aspects that might influence the (perceived) bargaining positions. Much literature can be found on these topics and for reasons of feasibility the research was limited to a selection of articles. The obvious consequence of these limits is the incompleteness of this literature research. Since this part of the research mainly serves as input for the questionnaire, the aim is not for it to be a complete literature review but for it to be a sufficiently large literature review to gain insight in what is already known about bargaining positions and determinants.

WebOfScience and ScienceDirect were the databases used for the scientific literature search. Search terms and some brief comments about the literature selection can be found in appendix A. Recommendations from others and references in the articles found through the databases, led to some additional articles to be included, however, not a complete snowball method was applied. Grey literature was not excluded in this search. This resulted in US studies only with the exception of a few studies about the Netherlands.

The literature was analyzed by first summarizing each article, often using the abstract, with again two specific aims: (1) to analyze what the article says about the bargaining position; (2) to analyze what possible determinants are mentioned influencing the bargaining position. These summaries are not adopted in this report. However, chapter 3 and Appendix B will give an overall summary of the findings.

For the identification of the determinants only the variables that are the main focus of the specific study are included as possible determinants. This method risks the exclusion of other variables that directly or indirectly may also be determinants of bargaining power, but are not the main focus of the article (i.e. more variables than solely control variables will be excluded). This method of analysis was chosen, since the amount of explanatory variables in many researches is large and by analyzing articles this way there was a smaller risk of losing the focus of the article. For the identification of possible determinants no attention was paid if the variable turned out to have a significant influence. This was done because in one study multiple models with multiple outcomes can be used. Besides, different articles use different models and different values for estimating whether the variable has a

significant influence. Moreover, grey literature often does not present any interpretation of the significance of the results which would make the comparison to the scientific literature more difficult.

Finally, since most researches discuss the effects of variables on prices, discounts, or profits, a research presenting a variable as having no significant effect does not mean the variable has no effect on the *perceived* bargaining position (i.e. the bargaining position as experienced and regarded by the hospitals and insurers themselves, which is more based on subjective opinions and experiences than on objective price measures), this latter perceived position being the focus of this thesis. This can only be measured by asking insurers and hospitals themselves how they perceive their own and each other's bargaining position.

2.1.2 INTERVIEWS

In total, 11 interviews were held between January and March 2012: 6 hospitals; 2 insurers; Multizorg VRZ; NZa; Netherlands Association of Dutch Healthcare Insurers (hereinafter: ZN). In Appendix C a list of the respondents can be found. The interviews were unstructured, open, and informal, again focusing on the two topics of bargaining positions and factors, but now the emphasis was on the *perceived* bargaining position and *perceived* determinants. This means that the respondents were specifically asked to give their views, opinions, and experiences. I explained the topic of my thesis briefly when introducing myself but I left definitions of certain terms (e.g. bargaining position) as much as possible to the interpretation of the respondents. I often did give an example of a possible determinant/factor influencing the bargaining position and sometimes I gave an example of how the term "bargaining position" may be interpreted to clarify my questions, but these definitions and examples were not as specific as or the same as the definitions I gave in chapter 1 of this thesis. Examples of questions that played an important role in many interviews were:

1. How do you experience your bargaining position towards hospitals/insurers?
2. Which party do you think has a stronger bargaining position: hospitals or insurers?
3. What factors do you think might influence a hospital's or insurer's bargaining position?

However, each interview was different and no standard questions were asked, but the two topics of bargaining positions and factors came forward in every interview. Multizorg VRZ was also asked about their bargaining position, even though they are not an insurer. However, they act as one when bargaining with hospitals.

For the interviews I travelled to the respondents to take as little of their time as possible. The duration of the conversations differed between approximately 45 minutes and 2 hours. Each interview took place with either one or two respondents at the same time. All interviews were face-to-face, which was a pre-set requirement to secure the openness of the interviews. For this reason, no recordings were made and the results in this thesis are presented without mentioning which results came from which interview. To decrease the traceability of the answers, only a summary of all interviews together will be

presented in this thesis. The answers about the bargaining positions are summarized in a narrative manner; the answers relating to the possible factors are summarized in a table.

The individual interview summaries were sent to the respondents for approval. These were not transcripts, since there were no recordings made, but they were interview summaries in the same form as the overall summary included in chapter 3. Many times I asked some additional questions for the purpose of clarification, which frequently led to some adjustments. After the adjustments the summary was adopted in the overall summary of all the interviews. However, some of the respondents made comments about the style of summarizing: the feeling of it being more of an interpretation of the interviewer instead of being an interview report, the feeling not everything that was said during the conversation could be found back in the summary, and the view that the answering of additional questions could be left over to me, being the interviewer. In the latter case, most of the additional questions and remarks were removed and some things were adjusted to my own interpretation and memory of the conversation. In the first two cases, only concrete suggestions were adopted in the summary. However, these comments do lead to some caution when interpreting the interview results, since my own interpretation is very likely to have coloured the results. Although, this is a risk of any interview conducted without recording and transcripts. Additionally, in this study design this drawback is not likely to cause any problems because in the second stage additional analyses will be performed to validate the findings of the first stage.

Clustering of the answers took place according to my own interpretation, which will be further explained in chapter 3.

2.2 RESEARCH SECOND STAGE

After considering many possible research methods for the second stage, I have decided to use a method which compares the different determinants that I found in the literature and interviews and gives a relative value to the determinants.

First, the determinants were clustered using a so-called determinant tree which can be found in appendix E and chapter 3.2.2 explains how this determinant tree was built. Eventually, 32 determinants were chosen to use for this relative scoring method, but to compare 32 determinants is much too ask from a respondent. This is why the determinants are split up in clusters or sets of questions, which is visualized in appendix E.

As opposed to the literature and the interviews, the respondent was asked to specifically keep the negotiations over 2012 in mind when answering the questions. Within each cluster or set of questions the respondent is asked to give a relative rating to the mentioned determinants. A value of 100 is to be given to the determinant(s) within the cluster that influence(s) the bargaining positions the most according to the respondent. All other determinants are given a score between 0 and 99 relative to

this/these most important determinant(s). When a respondent argues none of the mentioned determinants is important to the bargaining positions, he/she is allowed to rate all determinants with 0. This is the only case for which none of the determinants in a cluster is valued 100. When a determinant is valued 0 and in the next level of the determinant tree this determinant is further split up in multiple determinants, this next level of this determinant will automatically be valued 0 as well.

The results will be analyzed using non-parametric statistical tests, because of the small number of respondents and therefore not being able to meet the demands for parametric tests. Which specific tests will be used will be explained in chapter 4.

I will use the above described method to rank the determinants/factors, which I find in the literature and the interviews. To be able to analyze the results in more detail, I will also ask for some details from the respondent parties while keeping the questionnaire anonymous, for example whether it is an insurer or a hospital.

One of the biggest advantages of this method in this thesis is that more determinants can be evaluated than in some other methods, such as a vignette. This is because of the hierarchy and the clustering of determinants into different levels of the hierarchy (see appendix E), which makes it possible to compare determinants within a cluster of determinants as opposed to having to compare all determinants at the same time. . Also, the method allows to rate the determinants on a 100-point scale since the respondents can value the determinants from 0 to 100, which is quite specific.

A first disadvantage is that we will not be able to figure out the absolute score of each determinant. We do not know whether 1) a determinant is not really influential, but because there was not a more important one in the cluster the determinant is therefore valued 100; or 2) a determinant is actually very influential and is also the most important one in the cluster and is therefore valued 100.

A second disadvantage is not knowing why a determinant is given a low or a high value. For example, if a respondent says the determinant “ability to steer its customers to preferential providers” is not of much influence to the bargaining positions, we do not know whether this means that 1) this is not very influential since insurers are not steering their customers much yet; or 2) the insurers are steering their customers often, but this does not influence the bargaining positions.

3. RESULTS STAGE 1 RESEARCH: LITERATURE & INTERVIEWS

3.1 LITERATURE RESEARCH

First I will discuss what the literature review below tells us about the bargaining positions of hospitals and insurers. Some possible determinants will be mentioned in this section as well. The next subsection will explain what possible determinants on the bargaining positions are selected from the literature as an input for the questionnaire.

3.1.1 BARGAINING POSITION

The main findings of the literature review are summarized below, starting with papers discussing US hospital markets, followed by (grey) literature about Dutch hospital markets. In general, the focus of the literature description below is on the results from each paper. A full discussion on the methods used and limitations of each article is beyond the scope of this thesis.

International literature

The earliest paper discussed here dates from 1983 (Adamache & Sloan). This paper researches, inter alia, the influence of certain policies on different outcomes of Blue Cross plans. Much of this paper is less interesting in the Dutch setting, since nonprofit insurers do not face different policies or taxes than for-profit insurers in the Netherlands. The most interesting result for my purpose is that the market share of a Blue Cross plan positively influences the discount the plan receives from hospitals.

Melnick et al. (1992) also focus on Blue Cross and research the influence of the structure of the hospital market on the Preferred Provider Organization (hereinafter: PPO) prices paid by Blue Cross and the influence of the Blue Cross' relative strength towards the hospital on these prices. The results show that the price is positively affected when a hospital becomes more important to the PPO in the area, which is measured by the "Hospital's share of total Blue-Cross days in its market" (225) (in the study interacted with the HHI) or, instead of the market, in the county (not interacted with HHI). The significance of these results depends on which model is used. When the payer's importance to its network hospitals increases (i.e. "Blue Cross' share of hospital's days" (225)) it seems to be able to get some price discounts from them.[1]

Dranove et al. (1993) find that their results vary with the type of hospital price data that they use. When focusing on the dependent variable they focus on, which is the net markup (defined as the net price of a market basket containing certain hospital services minus the cost of this basket, divided by the net price), and when looking at the model the authors focus on, they find that the relationship between net markup and concentration is positive and significant for 1988 but not for 1983. The increase of this coefficient between the two years is significant. This is in line with the hypothesis that since the early 1980s a shift took place from competition driven by patients to competition driven by

[1] However, the authors found the measure of the importance of Blue Cross to the hospital to be endogeneous according the Hausman test they used. I will refer to the original article for further explanation.

payers, the latter situation leading to an increased applicability of the expected relationship between price and concentration.

Dranove et al. (2008a) study hospital markets and test whether the "managed care backlash" changed the relationship between price and concentration. In the 1990s, they find this relationship to be increasingly positive; however, between 2001 and 2003 this increase stops and maybe reverses.

Moriya et al. (2010) also research the relationship between market concentration and prices. However, instead of focusing on the hospital market concentration, they also focus on the insurer market concentration. They find a significant negative association between insurer market concentration and prices, and an insignificant positive association between hospital market concentration and hospital prices. However, results are sensitive to the inclusion or exclusion of data from Georgia and Michigan.

Bates & Santerre's (2008) evidence suggests bigger concentration on the insurer's side of the market is not related to monopsony power, for which the authors say monopsony power can be shown by a negative relationship between hospital output and buyer concentration. Some evidence suggests there may be a positive relationship between output and buyer concentration, which may suggest an increase in what the authors call "monopoly-busting power" (2).

In a research focusing on Medi-Cal, Bamezai et al. (2003) evaluate the effects of the fact that Medi-Cal has no threat of leaving beneficiaries, which may result in undue market power for Medi-Cal. They conclude that "[c]ompelling evidence that would support the hypothesized lack of consumer choice is not forthcoming" (81). However, to the Dutch situation, Medi-Cal may be less relevant.

Zwanziger et al. (2000) study hospital revenues and costs in California in the years 1983-1997 and conclude, inter alia, that hospitals located in an area with more competition increased their revenues and costs at a lower rate. This seems to be the consequence of the increase in selective contracting.

Shen et al. (2010) study hospital costs, revenues, price, and quantity in the period of 1994 to 1999 and 2000 to 2005. They find that HMO penetration is associated with a decrease in revenues and costs, but this negative relationship seems to weaken after the year 2000. In markets with a high average HMO concentration and a low average hospital concentration, hospital revenue is significantly lower than in other markets.

Kralewski et al. (1992) view the contracting process from the perspective of the hospital and investigate two aspects in the process: (1) the provision of discounts; (2) the size of the discounts. The following results vary with the selection of contracts they use as an input for the model. They conclude that providing discounts was positively related to whether the contract contained provisions concerning risk-sharing, the amount of hospital competition within five miles of the hospital, the amount of HMO market competition (proxied by the number of HMOs and HMO saturation in a certain area), and

negatively related to the variable indicating whether the hospital was a public hospital. The variables indicating the provision of risk-sharing and the amount of hospital competition within five miles of the hospital were also positively related to the size of the discounts. However, while the amount of HMOs in a certain area was positively related to the provision of discounts, it was negatively related to the size of the discounts.

As described above, Melnick et al. (1992) already took into account importance of the hospital to the payer and vice versa. Somewhat related to this concept, both Town and Vistness (2001) and Capps et al. (2003) take a different approach, in that they use the value (both using utility functions) consumers attach to hospitals being included in a plan's network. Town and Vistnes (2001) conclude that the bargaining power of a hospital is subject to the value the hospital adds to the network, which "is determined by the plan's opportunity cost of either replacing the hospital with another one outside of its network, or else simply dropping the hospital and marketing a smaller hospital network" (752). However, Capps et al. (2003) do give their critique on the methods used by Town & Vistness (2001) and they attempt to correct and improve the model used by the latter. Capps et al. (2003) conclude in their study that the correlation between the consumers' willingness to pay for inclusion of a certain hospital in the insurer's network and hospital profits is high. Ho (2009) also uses utility functions in the first part of her research. The article's main specification of the model shows, amongst other things, that hospitals in systems and so-called "star hospitals" (418) (indicating hospitals that consumers find particularly attractive) receive higher profits.

Dranove et al. (2008b) refer to previous work (Capps et al. 2003) in which they assumed a bargaining model in which both insurers and hospitals had no rational foresight. In their current article (Dranove et al. 2008b) they examine how much foresight bargainers really have. The authors conclude that bargainers seem to have the foresight that a withdrawal of one hospital from a network leads to an increase in the other hospitals' bargaining power.

The article Brooks et al. (1997) deviates from the aforementioned articles in that it focuses on the pricing of one medical procedure: appendectomy. They research the relative bargaining power of large firms that self-insure (hereinafter: insurers) and hospitals. Hospitals turned out to have relatively more bargaining strength, on average, than insurers during the period of 1988 to 1992. However, this bargaining power is decreasing over time.

Dor et al. (2004a) also focus on self-insured firms, and they also focus their research on one medical procedure: coronary arterial bypass graft. Relative to fee-for-service (hereinafter: FFS), HMOs receive the highest discounts, PPOs receive the second highest discounts, and major-medical plan prices do not significantly differ from FFS prices. This research shows that increased hospital market concentration leads to an increase in prices. They use a Herfindahl index for hospitals providing cardiac surgery. In an article by the same authors (Dor et al. 2004b), they again focus on self-insured employers but this time they research the procedure of angioplasty. Point of Service-HMO

(hereinafter: POS-HMO) prices were approximately 24% lower than FFS prices and PPO prices were approximately 8% lower than FFS. HMO penetration affected the price negatively, but an increase in the Herfindahl index for the hospital market increased prices. Private nonprofit hospitals had significantly lower prices, while private for-profit hospitals had moderately significantly higher prices than public hospitals.

Sorensen (2003) and Wu (2009) add to the above literature in that they explicitly, amongst other characteristics, research the influence of the payer's ability to channel patients ("move market share") on the negotiated discounts with hospitals. Wu (2009) finds that, with no interaction terms, large plans get a bigger discount. With interaction terms, "[t]wo out of three plausible channelling measures demonstrate that, conditional on size effect, plans that are better able to channel patients can obtain even greater discounts" (357). Sorensen (2003) concludes that the payer's ability to channel patients is relatively more important to the bargaining clout than the size of the payer.

Although some researchers have paid some attention to hospital systems (e.g. Kralewski et al. 1992; Brooks et al. 1997; Ho 2009), for Melnick & Keeler (2007) this is their main focus. Members of hospital systems did not get prices that were considerably higher than non-members in 1999. But by 2003, members had considerably higher prices than non-members. The authors argue that "[f]rom a theoretical perspective, formation of hospital into multi-hospital systems can lead to price increases as a result of improved quality and services or as a result of greater bargaining power. [Their] data do not allow [them] to make a direct causal link to these competing alternatives" (409). Interestingly, "system hospitals that were close to other system hospitals did not have higher prices than system hospitals that were not close to other system hospitals" (408).

Research by Lewis and Pflum (2012) looks at the influence of being a member of a hospital system on the price a hospital negotiates with a managed care organization. Interestingly, they explicitly differentiate between a hospital's bargaining position and its bargaining power[2] in their research methods: "The effect of a better bargaining position for a system represents the additional markup in the system's average daily reimbursement that is attributable to its ability to adjust the disagreement point by threatening to withdraw all system members" and "the impact of bargaining power is represented by the additional markup in the system's average daily reimbursement that is attributable to the larger bargaining power parameter associated with system characteristics that would not be present if each member hospital had operated individually" (33). With regard to system membership, they find evidence that on average the additional bargaining power adds more to the markup of a system than the improvement of the bargaining position does.

A slightly related topic was researched by Burgess Jr. et al. (2005), but they research the effects of hospital *networks* on prices. The authors distinguish networks from systems mainly in that networks do not have a common owner and systems do. Networks should not be confused with the provider

[2] These are terms that are used interchangeably in my thesis. However, for the article of Lewis & Pflum (2011) I will distinguish between the two terms.

networks that insurers form. Burgess Jr. et al. find the strongest positive effect on prices if hospitals being same-system members also collaborate together in a network.

Somewhat relating to the topic of networks in Burges Jr. Et al (2005), is the topic of physician-hospital affiliations. Burns et al. (2000) research "the strategic alliance between a hospital and its medical staff" (104) which is "a popular form of integrated healthcare that does not involve outright ownership" (104) and find, amongst other things, that "[c]ross-sectionally, a higher number of HMOs is associated with alliance activity; longitudinally, a decrease in HMO numbers spurs greater alliance formation" (121-122). They suggest that one of the reasons for hospital-physician alliances may be an attempt to increase providers' bargaining power as a force against consolidating payers. The effects of vertical integrations between hospitals and physicians are studied by Ciliberto and Dranove (2006). They examine integrated service models (with common ownership), and open and closed physician organizations (which are joint ventures). They do not find a positive relationship between vertical integration and prices. "If anything, integration is associated with lower prices, though the estimated price reductions are neither precise nor statistically significant" (37).

A mixture of qualitative and quantitative, and primary and secondary data was used in the article of Devers et al. (2003), which adds to the findings in the literature discussed above. Their results show that between 1996 and 2001 hospitals have increased their negotiating leverage. Changes in three areas seem to explain this increased power: "policy and purchasing context"; "managed care plan market"; "hospital market" (421). However, many of these determinants are specific to the US health care market and, thus, may not always be relevant to the Dutch health care market.

Berenson et al. (2010) and Berenson et al. (2012) also use qualitative research. Berenson et al. (2010) find that "[f]aced with declining payment rates, California providers have implemented various strategies that have strengthened their leverage in negotiating prices with private health plans (699)." A very recent qualitative research by Berenson et al. (2012) finds multiple reasons for the increased hospital and physician negotiating leverage, some not having anything to do with consolidation. Moreover, "[a]lthough there was an overall trend favouring hospitals across the twelve markets, there is much variation concerning which party – plans or hospitals – was perceived as having the upper hand in negotiations" (974). Some of the factors or strategies found in both articles will be mentioned in appendix C, which accompanies paragraph 3.1.2.

Dutch studies

Now turning to the Dutch research that is done on the insurer-hospital bargaining topic, a qualitative research by Gupta Strategists (Heida 2008) is especially relevant for my thesis. They find that both insurers and hospitals think the other party has a stronger position than they have. However, it is not quite clear to me if this conclusion was reached solely by the questionnaires or maybe also by the interviews: the question they refer to in the questionnaire is whether the respondent thinks they have a stronger position than the negotiating partner. However, non-confirmative answer does not have to

imply a stronger position for the opposing party, since it may also imply an equal position. They also report most interview respondents saying the hospital uses less power than it actually possesses. In the B-segment the report says insurer's power is a bit smaller than in the A-segment.

Another relevant Dutch research is that of Halbersma et al. (2010), which investigates the influence of hospital and insurer market concentration on prices. They use two models. The first model shows the price-cost margin of the hospital is significantly influenced by the hospitals' and insurers' market shares. The second model shows no significant impact of hospital concentration but a significant impact of insurer concentration on the hospital's bargaining share (which "is determined as a fraction of the total gains from trade between hospitals and insures that goes to hospitals" (599)).

In line with the aforementioned articles of Brooks et al. (1997) and Dor et al. (2004a; 2004b), the research of Kemp & Severijnen (2010) also focus on one medical procedure: hip surgery. This study, however, is a post-merger study in the Netherlands. They evaluate two hospital mergers in the Netherlands. For one they do find a significant increase in price and for the other they do not find this as a result of the merger. A more recent study of Kemp et al. (2012) also focuses on hip surgery but evaluates six Dutch hospital mergers, two of which are the same as in Kemp & Severijnen (2010). Kemp et al. (2012) find that for half of the hospitals studied (the total is twelve hospitals) the average price increases significantly post-merger and for three out of the twelve hospitals the average price decreases significantly after the merger.

3.1.2 POSSIBLE DETERMINANTS BARGAINING POSITION

As appeared from the previous section as well, the interpretation of possible determinants of the bargaining position from the articles is not always straightforward. Sometimes, interpretation of data and reports can be difficult. For example, what an author defines as bargaining power can sometimes be seen as determinants that influence bargaining power. E.g. if bargaining power, hypothetically, is defined as *ability to steer your customers*. The question is whether the ability to steer is a determinant of bargaining power or just part of the definition of bargaining power. Also, often not bargaining power directly is researched but for example the consequences of certain variables on prices. This I often interpreted as variables possibly influencing the bargaining position (and thus the price). These kind of dilemmas I left over to my own interpretation of the text but may not be similar to the interpretation of the original author of the article or report. A further explanation of the interpretation and selection of possible determinants per article is given in Appendix C.

3.2 INTERVIEWS: BARGAINING POSITION AND POSSIBLE DETERMINANTS

Interviews were focused on the bargaining position in general, not specific to the A- or B-segment or to a specific year, although I do realize that *price* bargaining only applies to the B-segment and bargaining in the A-segment is quite different from the B-segment. However, some respondents found it difficult to answer the questions when not related to a specific segment or year, these respondents did talk about a specific year (often 2011 or 2012) or a specific segment (often the B-segment). Since

these issues came to light during the course of the interviews, I was not able to adjust the interview questions to these issues. For the sake of comparability and since the interviews will be complemented with questionnaires, the results below will be presented as if they were not specified to a certain year or segment, even though they might have been during the interviews. Thus, some caution is appropriate when interpreting the interview results.

However, for the questionnaires there will be a focus on a specific segment and year, namely the 2012 negotiations for the B-segment, to avoid these same interpretation problems.

When looking at the interview results, the interviews did not show that all parties on the insurers' side (assuming here the ZN and Multizorg VRZ to be on their side) and all hospitals automatically point to the opposing party to have more bargaining power. To reduce the traceability of the results, I will not specify whether this means the respondent thinks his own party has more power or whether this means that he is not very explicit about who is stronger.

The interview respondents were asked to give their view on *possible* factors influencing the bargaining position, thus the possible determinants of the bargaining position. In Appendix D you can find the answers, also the factors mentioned more than once, falling into the different clusters in the way they were reported in the individual interview reports and sent to the specific respondent for approval. As one can see in Appendix D, these determinants were only organized in 6 clusters. The decision whether something is regarded as a general or hospital- and/or insurer-specific determinant and whether it should be in the categories of hospital characteristics, insurer characteristics, or "other", is a debatable categorization.

General determinants[3] = determinants that every hospital and insurer has to deal with, so it is not dependent on to specific bargaining couple (e.g. law and regulations)
Hospital and/or insurer-specific determinants[4] = these determinants differ in size or content between hospitals and/or insurers (e.g. market share)

Some factors are mentioned more than once in appendix D. This can be because the factor was mentioned by multiple respondents or because some (almost) similar factors can sometimes fall into multiple categories and are therefore mentioned in more than one category.

For the general determinants, often the word "fact" is mentioned. With this I mean that the respondent came across as accepting the determinant as a fact every hospital and insurer has to deal with. This does not mean it is an actual fact, since it is subject to the respondents view and my interpretation of the respondents' answers.

[3] In the reports that were sent back to the interview respondents these were called structural determinants
[4] In the reports that were sent back to the interview respondents these were called variable determinants

Before starting the interviews I did not expect to find this many general determinants as I did. Many issues had to do with rules, regulations, and the General Agreement (in Dutch: Hoofdlijnenakkoord) between the Dutch Hospitals Association (hereinafter: NVZ), Dutch Federation of University Medical Centers (hereinafter: NFU), Independent Clinics Netherlands (hereinafter: ZKN), ZN, and the Ministry of Health, Welfare and Sport (hereinafter: VWS).

In the category of hospital and/or insurer-specific determinants many determinants were mentioned concerning market share, market concentration, size, mutual dependence and the relationship between hospital and insurer. Also other relationships (e.g. of the hospital/insurer with outside parties), characteristics of the negotiation teams, the quality of the hospital, and the insurer's ability to steer (including the instruments for this) are mentioned quite often.

A complete overview can be found in appendix D.

4. RESULTS RESEARCH STAGE 2: QUESTIONNAIRE

4.1 COMBINING LITERATURE DETERMNANTS AND INTERVIEW DETERMINANTS

While combining the determinants found in literature (appendix C) and the determinants found in the interviews (appendix D), further clustering was necessary to be able to use the factors in the questionnaire.

In case of the interviews, the clustering is not taking into account the underlying reasoning for mentioning the factor, because two respondents might have mentioned the same factor with different underlying reasoning for why it is a factor. In the questionnaire, the respondents have to just be able to consider if the factor, however interpreted, is important to *them*. Thus, clustering took mainly place based on logics of the names of the factors and by my own interpretation of the factors, rather than based on the underlying reasoning of the interview respondents. This may have caused some deviation from the respondents' views and may have also led to multiple factors from one interview being placed in a single cluster, while the respondent did intend them to be separate factors.

The general determinants from the interviews will not be included in the questionnaire. This exclusion is to make the research method less complicated to the respondents. The obvious reason for the hospital- and/or insurer-specific determinants to include them in the questionnaire as opposed to the general determinants, is that these determinants differ either per hospital (in case of hospital characteristics), per insurer (in case of insurer characteristics), or per bargaining couple (in case of couple-specific characteristics). Therefore, these determinants are expected to vary more in their importance to the questionnaire respondents as opposed to the general determinants.

The final clustering of the determinants can be found in appendix E. Under the clusters the different determinants were listed that fall within the cluster. As can be seen, many determinants were not used. The most important reasons for excluding determinants were:

- the determinant was not relevant to the Dutch situation;
- the determinant was too vague to be used for the questionnaire;
- the determinant had a lot of overlap with the existing clusters;
- since the questionnaire had to be limited in size, also some determinants were excluded that were likely to be less important.

The questionnaire that was sent out can be found in appendix F, both in Dutch and translated in English. The organizations that were approached to cooperate in the questionnaire can be found in appendix G.

4.1 QUESTIONNAIRE RESULTS: DESCRIPTIVE STATISTICS

In total 48 respondents out of the 95 organizations that were approached filled out the form completely[5]; this is over 50%. Of these respondents 4 were insurers and 44 were hospitals. In total 87 hospitals were approached and 8 insurers. Thus, 4 respondents in the insurers' group may be a low absolute number but relatively the number is quite large, since 50% responded. In the sections analyzing the questionnaire, only the questionnaires that were filled in completely will be analyzed. The incomplete forms were excluded.

Overview Respondents	
Total respondents:	48
- Hospitals	44
- Insurers	4
Hospital types:	
- General	28
- Top clinical	13
- Academic	2
Hospital sizes:	
- < 250 beds	7
- 250-500 beds	18
- 500-750 beds	11
- 750-1,000 beds	3
- > 1.000 beds	4
Hospital regions:	
- Not urban	4
- A little urban	9
- Moderately urban	11
- Strongly urban	9
- Very strongly urban	11
Insurer sizes:	
- Large	3
- Small or health care purchasing organization	1

Table 1) Overview respondents

In total there are 18 (sub)groups of respondents:

(1) Total

(2) Hospitals, that were divided in:

- Type: general hospitals (3); top clinical hospitals (4); academic hospitals (5)
- Size: <250 beds (6); 250-500 beds (7); 500-750 beds (8); 750-1,000 beds (9); >1,000 beds (10)
- Area: not urban (11); a bit urban (12); moderately urban (13); strongly urban (14); very strongly urban (15)

(16) Insurers, that were divided in:

- Size: large (17); small (18)

Out of the 44 hospitals, 28 were general hospitals, 13 top clinical hospitals, 2 academic hospitals, and 1 was undefined, since this hospital claimed to be an academic hospital with 250-500 beds which does not exist in the Netherlands.

In total, 7 hospitals had less than 250 beds, 18 hospitals contained 250-500 beds, 11 hospitals possessed 500-750 beds, 3 hospitals had 750-1,000 beds, 4 hospitals had more than a 1,000 beds, and again 1 hospital was undefined for the aforementioned reason.

Of these hospital respondents, 4 were situated in a region that was not urban, 9 were located in an area that was a little urban, 11 hospitals were in a moderately urban region, 9 in a strongly urban region, and 11 in a very strongly urban area.

Out of the 4 insurers, 3 insurers were large and only one insurer was a small insurer or a health care purchasing organization. Since there are only 4 large health insurers in the Netherlands with a cumulative market share of about 90%, the response rate of 75% among these insurers is rather large.

[5] One of which did not press the "close"-button at the end of the questionnaire but was still included in the respondents group.

Table 1 shows an overview of the respondents of the questionnaire.

The data was adjusted in cases where respondents misinterpreted the method. If, for example someone filled in the following scores in the first three questions:

Hospital characteristics: 75
Insurer characteristics: 50
Couple characteristics: 25

This would be adjusted to:

Hospital characteristics: 100
Insurer characteristics: 67
Couple characteristics: 33

As you can see, all these adjusted scores were rounded to the nearest whole number. This is done, because respondents who did understand the method completely also used whole numbers.

If a determinant cluster in the first level of the determinant hierarchy (e.g. insurer characteristics) was scored 0, the accompanying sub-clusters in levels 2 (e.g. insurer's ability to steer its customers) and 3 (e.g. the instruments the insurer could use to steer its customers with) were automatically valued 0 as well. Or if one of the clusters in level 2 (e.g. hospital's performance in case of public interests) was valued 0 and it had any sub-clusters in the 3rd level of the hierarchy (for this example: hospital's quality, financial situation, accessibility, and waiting times), these were valued 0 automatically.

Some descriptive statistics in the shape of bar charts for each set of questions are drawn, showing the mean score per question, and can be found in Appendix H. This can be very illustrative next to the statistical results that will be presented next. This is because the statistical tests used assume a lower relative response rate and may therefore use rules that are stricter than necessary. This is why the bar charts can be an illustrative addition.

A non-response analysis was done to assess whether the results below can be generalized for the whole population of hospitals and insurers. To do this all the respondents were divided into three groups based on the day the respondents finalized the questionnaire:

1) A group that responded between the 27th of August (the day the questionnaire was sent) and the 4th of September
2) A group that responded between the 5th of September (the day the first reminder was sent) and the 13th of September

3) A group that responded the 14th of September (that final day of the questionnaire a second reminder was sent)

The theory behind this is that the later the respondents filled out the form, the more they are like non-respondents. If these three groups do not differ from each other, it indicates that the respondent group will probably not differ from the non-respondent group either. A Kruskall Wallis test (which will be explained further in the next section) was performed for all the determinants researched and for the question about the perceived bargaining position[6]. Overall, the three respondent groups do not seem to differ much. The only statistically significant differences were for the determinants hospital type ($\alpha \leq 0.100$), capacity in the specific region ($\alpha \leq 0.010$), hospital's financial situation ($\alpha \leq 0.050$). Therefore, non-response bias is assumed not to be an issue.

4.2 QUESTIONNAIRE RESULTS: STATISTICAL ANALYSIS OF RESPONDENT SUBGROUPS

Now, a statistical analysis will show whether the scores in the subgroups described above statistically differ from each other. The score differences between large and small insurers will not be analyzed because only one small insurer responded.

First, it is analysed whether the scores of hospitals and insurers statistically differ for the determinants. To do this a non-parametric Mann-Whitney (hereinafter: MW) test is performed for two independent samples. Since the absolute number of respondents in the subgroup of insurers is low and a normal distribution cannot be assumed, a non-parametric test was chosen. Non-parametric tests do not assume a normal distribution, however they are less powerful than parametric tests, because some of the available information in the data is not used in non-parametric tests. We assume the answers given by the respondents are independent of each other, this is why a test for two independent samples was chosen. The MW test tests the null hypothesis that the mean rankings of the two groups are equal. The results are in the table below in the column of "Hospitals (H) vs. Insurers (I)". The number of * symbols indicate the 2-tailed significance of the differences. Behind this symbol it is indicated whether the hospitals (H) or the insurers (I) had a higher mean ranking.

For the other subgroups (e.g. 3 subgroups of types of hospitals) of respondents non-parametric Kruskal-Wallis (hereinafter: KW) tests were performed since this test, as opposed to the MW test for two independent samples, is suited to apply in the case of more than two independent samples. Just like the MW test, the null hypothesis is that the mean rankings of the groups that are being compared are equal. Only in case of significant results in the KW test, the KW test was followed by a manual calculation to determine which pairwise difference was significant. For example: if it was concluded that the mean rankings of the 3 hospital types differ in case of the determinant "insurer's ability to steer its customers to preferred providers", we still do not know where this difference lies. The following manual calculation compares in a pairwise manner the general hospital to the top clinical hospital, the

[6] For this question only the answer categories weaker than, equal to, and stronger than the other party were included, so it would be an ordinal variable and a Kruskal Wallis test could be performed.

top clinical hospital to the academic hospital, and the academic hospital to the general hospital, to find out where the differences really are. The equation used for this exercise is:

$$|\bar{R}u - \bar{R}v| \geq z_{\alpha/(k(k-1))} \sqrt{\frac{N(N+1)}{12} * \left(\frac{1}{n_u} + \frac{1}{n_v}\right)}$$

(Siegel & Castellan 1988)

$\bar{R}u$ = Average ranking of group u

$\bar{R}v$ = Average ranking of group v

z = critical value

α = significance level

k = number of groups

N = number of total respondents of the groups together

n_u = number of respondents in group u

n_v = number of respondents in group v

The results of these pairwise comparisons (hereinafter referred to as Post hoc KW) are also presented in the table below. For example: the score for the “insurer’s ability to steer its customers to preferred providers” does statistically differ between types of hospitals at the 5% significance level, and when subsequently performing the pairwise Post-hoc KW it turns out that academic hospitals differ significantly (at α ≤ 0.100) from top clinical hospitals in its mean ranking for this determinant than top clinical hospitals. The direction of this difference is that academic have a higher mean ranking in this determinant than top clinical hospitals. Therefore, in the specific KW column the following symbol can be found for “Ins_steering” (which is an abbreviation for the insurer’s ability to steer its customers to preferred providers): **. In the Post hoc KW column, the results are summarized as: * (2<3). For the Post hoc KW the 1-tailed significance is used. This has to do with the fact that the calculation focuses on the *absolute* value of the difference in average ranking between group u and group v.

Table 2 below only shows the determinants for which statistically significant results were found. A blank cell means that no significant result was found or, in case of the Post hoc KW, that the test was not applied since there were no significant findings in the KW test in the first place. In Appendix I definitions of the abbreviated determinants used in the table below and the tables following are presented.

	Hospitals (H) vs. Insurers (I)	Hospitals: type[1]		Hospitals: size[2]		Hospitals: size (alternative)[3]		Hospitals: region[4]		Hospitals: region (alternative)[5]	
Statistical Test	MW	KW	Post hoc KW	KW	Post hoc KW	KW	Post hoc KW	KW	Post hoc KW	KW	Post hoc KW
Total respondents (N)	48	43[6]	43[6]	43[6]	43[6]	43[6]	43[6]	44	44	44	44
Char_insur										*	
Hosp_region								**		***	** (1>3)
Hosp_pubint										*	
Hosp_relpat								*			
Hosp_relGP								*			
Ins_steering		**	* (2<3)								
Coup_impins2hosp	* (H<I)										
Coup_imphosp2ins	** (H<I)										
Coup_rel	** (H>I)	*									
Region_cap	* (H<I)										
Region_otherhosp		**	** (1<2)	*		**					
Region_markshare	*** (H>I)										
Steer_prefprov	** (H<I)										
Steer_hcmed	* (H<I)										

Table 2) Comparison of respondent subgroups

[1] 3 type groups: general(1); top clinical(2); academic(3)
[2] 5 size groups: <250 beds(1); 250-500 beds(2); 500-750 beds(3); 750-1,000 beds(4); >1,000 beds(5)
[3] 3 size groups: 0-500 beds(1); 500-1,000 beds(2); >1,000 beds(3)
[4] 5 region groups: not urban(1); little urban(2); moderately urban(3); strongly urban(4); very strongly urban(5)
[5] 3 region groups: not urban or a little urban(1); moderately urban(2); strongly or very strongly urban(3)
[6] 1 respondent said to be an academic hospital with 250-500 beds. Since this does not exist in the Netherlands, this hospital was excluded from these subgroups
* 2-tailed significance $\alpha \leq 0.100$, for Post hoc KW 1-tailed significance $\alpha \leq 0.100$
** 2-tailed significance $\alpha \leq 0.050$, for Post hoc KW 1-tailed significance $\alpha \leq 0.050$
*** 2-tailed significance $\alpha \leq 0.010$, for Post hoc KW 1-tailed significance $\alpha \leq 0.010$

It may seem strange that sometimes the group-based KW test does show significant differences for a certain determinant but the pairwise Post hoc KW tests, that followed the KW test, do not. This has to do with inter alia the small number of respondents in some of the subgroups and the irregular distribution of the respondents across the subgroups. To give an example: out of the 43 hospitals that were researched in the “Hospitals: type” column only 2 were academic hospitals.

4.2.1 HOSPITALS VS. INSURERS

When analyzing the difference in scores between hospitals and insurers, what strikes most is that all the couple-specific characteristics show statistical significant differences between insurers and hospitals. Insurers give a higher score to the importance of the hospital to the insurer and the other way around than hospitals did, and hospitals gave a higher score to the relationship between the hospital and the insurer. This could indicate a difference in approach in the negotiations between the hospitals and the insurers. A focus on the relationship between the hospital and the insurer may lead to different outcomes than a focus on mutual dependencies, which is more captured by the importance of the hospital to the insurer and the other way around. This is because a focus on the relationship means a focus on something you have and build together, a focus on dependencies can be misbalanced since one party being dependent on the other party does not guarantee the same dependence the other way around. Bargaining *power* may be more of an issue during negotiations when focusing on these dependencies.

Also, in the group of determinants describing the importance of the hospital to the region multiple significant differences are found. Hospitals are scoring the market share of the hospital in the region higher than insurers, indicating they think it is more important for the bargaining positions than insurers think it is. This could be seen in line with the previous findings in the couple-specific determinants. Insurers may be more focusing on the market share of the insurer within a certain hospital (which is related to the importance of the insurer to a specific hospital) and the market share of a hospital within the insurance company (which is related to the importance of the hospital to a specific insurer), while hospitals are focusing more on the market share of hospitals in a specific region. However, insurers do value the capacity in a specific region as more important to the bargaining positions than hospitals do. Since all these factors are so interrelated it is quite difficult to suggest a possible explanation for these outcomes.

Finally, when considering the instruments insurers have to steer customers to preferred providers, again two statistical significant differences between hospitals and insurers were found. Insurers gave higher scores than hospitals for both selecting preferred providers while not restricting customer's freedom of choice and influencing choice by active health care mediation, thus saying insurers think these instruments have more influence on the bargaining positions than in the hospitals' view. This means that the hospitals' opinion of what may be effective steering instruments differs from the insurers' view.

Surprisingly, no significant differences were found in the scores hospitals and insurers gave to the first set of determinants: characteristics of hospitals, characteristics of insurers, and characteristics of a specific bargaining couple. One might expect for hospitals to maybe have a more general view on insurers with little differences between different insurers, and therefore have them score insurer characteristics as less important than insurers themselves would score these characteristics.

4.2.2 TYPE OF HOSPITALS

The insurer's ability to steer its customers to preferred providers show significant differences for different type of hospitals. The Post hoc KW test shows that academic hospitals think this has more influence on bargaining positions than top clinical hospitals do. This may indicate that academic hospitals experience more effects of insurers navigating their customers than top clinical hospitals do, whether these effects are positive or negative for academic hospitals is not clear.

The relationship between the hospital and the insurer in a specific bargaining situation is scored differently by different type of hospitals. However, no statistical significant results were found in the pairwise Post hoc KW comparisons making it difficult to explain this result.

This was different for the characteristics of other hospitals in the region, since the pairwise comparisons showed that general hospitals gave a lower score to this determinant than top clinical

hospitals, meaning that general hospitals view this determinant as having less influence on bargaining positions compared to the view of top clinical hospitals.

Interestingly, no statistical significant differences between the type of hospitals were found for the scores given to the determinant indicating the type of hospital.

4.2.3 HOSPITAL SIZE

Both when considering 5 size groups and 3 size groups it is found that the determinant of characteristics of other hospitals scored differently for different sizes of hospitals. However, no significant pairwise differences were found in the Post hoc KW test making it difficult, and maybe even impossible, to interpret these results. One could also look at the mean scores to get an idea of where the differences might lie. For this I will refer to appendix H.

4.2.4 THE LOCATION OF THE HOSPITAL

Hospitals situated in different regions seem to evaluate the determinant indicating the importance of the hospital to the specific region differently. When considering 3 region groups and comparing them in a pairwise manner, it shows that the group that was located in an area that was either not urban or a little urban scored this determinant significantly higher than the hospitals that were located in either a strongly or a very strongly urban area. A possible explanation could be that hospitals in a non-urban or low-urban area usually do not have a lot of competition and therefore fulfil an important regional role and responsibility in their area. Also, the influence of a hospital nearby may be larger for a hospital in a non-urban or low-urban area than in a high-urban area, since the population one is competing for is smaller.

Other slightly significant results shows that in case of 3 region groups, characteristics of insurers and the performance of the hospital in case of public interests was scored differently in the different regions, and that in case of 5 region groups, the relationship of the hospital with its patients and with GPs scored differently for the different regions. However, pairwise comparisons showed no significant results making it difficult to interpret these results. Again, appendix H draws a picture of where the differences may lie.

4.2.5 SUBCONCLUSIONS

To summarize the findings presented above, one can conclude that differences between hospitals' and insurers' views mostly lie (1) in the couple specific characteristics with hospitals giving a higher value to the relationship than insurers and insurers giving a higher value to the mutual dependencies, (2) in the region characteristics with hospitals valuing the hospital's market share higher than insurers and insurers valuing the region capacity higher than hospitals, and (3) within the insurers' steering instruments with insurers valuing two of the instruments as being more important than according to hospitals.

Also between hospitals, some interesting results can be found. Academic hospitals find the insurer's ability to steer its customers to preferred providers more important to the bargaining positions than top clinical hospitals think it is. Top clinical hospitals believe the characteristics of other hospitals in the region are more important than general hospitals think they are. Hospitals situated in an area that was either not urban or a little urban scored the determinant indicating the hospital's importance to the specific region significantly higher than the hospitals that were located in either a strongly or a very strongly urban area.

More statistical differences were found using the KW test. However, in those cases the post hoc KW tests did show statistically significant differences when comparing groups in a pairwise manner.

4.3 QUESTIONNAIRE RESULTS: STATISTICAL ANALYSIS OF SETS OF QUESTIONS

In the previous section it was analyzed whether there were differences in the scores different subgroups gave to the questions. In this section it will be analyzed whether the scores between the questions differed significantly. To clarify this: in the previous section it was, for example, analyzed whether large hospitals gave higher scores to determinant A than small hospitals; in this section it will be analyzed if, for example, determinant A was scored higher/lower than determinant B. This is done through pairwise comparisons per set of questions. The sets were divided according to the hierarchy built before setting up the questionnaire (see appendix E). The pairwise comparisons were done for hospital respondents and insurer respondents separately to make sure the insurers' results do not get lost in the hospitals' results, since the absolute number of insurer respondents is low compared to the absolute number of hospital respondents.

To test if the possibility to use a paired samples T-test for the hospital group, the normality of the different variables was tested. Since not all of the variables were normally distributed, it was not possible to use a parametric test. Therefore a non-paramteric test for two related samples needed to be chosen, since the score of one determinant is dependent on the score of another and the samples are therefore related. This has lead us to use the non-parametric Wilcoxon test for both the hospital and the insurer group. The null hypothesis of this test is about comparing the sum of ranks (positive ranks versus negative ranks).[7]

First we will discuss the scores hospital respondents gave to the determinants (section 4.3.1), then we will look at the scores insurers gave to the determinants (section 4.3.2).

4.3.1 HOSPITAL RESPONDENTS: THEIR VIEW ON THE DETERMINANTS

The results of the Wilcoxon-tests for the scores the hospitals respondents gave (44 hospitals) are presented in the cross tables below. The * symbols show the 2-tailed significance of the results. The letters show which determinant of the two determinants being compared scored higher (e.g. *** (A<B)

[7] For further explanation I will refer to Siegel (1988)

means determinant A had a significantly (at α ≤ 0.010) different mean ranking than B and the direction of this difference is that B had a higher mean ranking than A). A blank cell means that no statistically significant difference was found.

- Hospital characteristics, insurer characteristics and couple-specific characteristics:

Char_insur (A)	** (A<C)	
Char_couple (B)		** (A<B)
	Char_hosp (C)	**Char_insur (A)**

Table 3) Results Wilcoxon test hospital, insurer, and couple-specific characteristics

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Table 3 shows that the insurer's characteristics (A) are regarded by hospitals as having the least influence on the bargaining positions out of these three determinants, since they are significantly different from determinant B and C and the direction of this difference is that A is smaller than both B and C. Thus, the bargaining couple's characteristics (B) and hospital's characteristics (C) seem to have more influence according to the hospitals.

This could mean insurers, according to hospitals, do not differ too much and therefore insurer characteristics are not perceived as having much influence on the bargaining positions. It could also mean that insurer do differ from each other, but the insurer characteristics are just not that influential on bargaining positions.

- Hospital characteristics, further specified:

Hosp_team (D)	** (D<K)						
Hosp_pubint (E)	*** (E<K)	* (D>E)					
Hosp_relpat (F)	*** (F<K)	*** (D>F)	*** (E>F)				
Hosp_relGP (G)	*** (G<K)	*** (D>G)	*** (E>G)				
Hosp_relhcp (H)	*** (H<K)	*** (D>H)	*** (E>H)	*** (F>H)	* (G>H)		
Hosp_relmedstaff (I)	*** (I<K)	*** (D>I)	*** (E>I)			** (H<I)	
Hosp_type (J)	*** (J<K)	*** (D>J)			*** (G<J)	*** (H<J)	** (I<J)
	Hosp_ region (K)	**Hosp_ team (D)**	**Hosp_ pubint (E)**	**Hosp_ relpat (F)**	**Hosp_ relGP (G)**	**Hosp_ relhcp (H)**	**Hosp_ relmedstaff (I)**

Table 4) Results Wilcoxon test hospital characteristics, further specified

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Table 4 is a bit more complicated than table 3, since it compares a lot more determinants with each other. The results presented in table 4 above show that, according to hospitals, the two most important determinants within the hospital characteristics are the importance of the hospital to the specific region (K) and the hospital's negotiation team (D). Determinant H (relationship of the hospital with other health care providers) is the least important. However, it is more difficult to order the other determinants according to importance, since some differences turned out to be statistically insignificant.

The importance of the hospital to the specific region (K) does contain other determinants, that we will discuss later, one of which is the hospital's market share. This, along with hospital market concentration, which is of course related, is a much used determinant in analyzing the bargaining power within the NMa. Therefore it is interesting that hospitals too think this is an important determinant for bargaining power. However, the negotiation team of a hospital is less well researched and therefore not used by the NMa as a determinant of bargaining power. However, if a good negotiation team is really of much influence on bargaining positions, it might also be interesting to analyze what happens to the quality of negotiation teams in case of, for example, mergers.

- Insurer characteristics, further specified:

Ins_markshare (L)	*** (L>P)			
Ins_steering (M)	*** (M<P)	*** (L>M)		
Ins_relcust (N)	*** (N<P)	*** (L>N)	*** (M>N)	
Ins_relGP (O)	*** (O<P)	*** (L>O)	*** (M>O)	
	Ins_team (P)	**Ins_markshare (L)**	**Ins_steering (M)**	**Ins_relcust (N)**

Table 5) Results Wilcoxon test insurer characteristics, further specified

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Determinant L scores significantly higher than any of the other determinants in table 5, determinant P scores also higher than all the other determinant except for determinant L, and determinant M scores higher than determinant N and O but lower than L and P. Determinant N and O do not differ significantly. Out of this information the following ranking of importance to the bargaining positions can be made:

1) Insurer's market share (L)
2) Insurer's negotiation team (P)
3) Insurer's ability to steer its customers to preferred providers (M)
4) Relationship of the insurer with its customers (N) and Relationship of the insurer with GPs (O)

As expected, the insurer's market share (L) scores high. This is expected because it is a well researched topic in literature about bargaining positions. However, rather unexpected, the insurer's negotiation team (P) scores higher than the insurer's ability to navigate its customers (M). This is rather unexpected, since in current policies and literature the insurer's negotiation team is not a well researched topic. On the other hand, it is not that unexpected since channelling customers is not much used by Dutch insurers (yet). It would be interesting whether Dutch insurers will use this instrument more in the future and consequently, whether hospitals will value this ability to steer as being more important to the bargaining positions in the future compared to now.

- Couple-specific characteristics, further specified:

Coup_imphosp2ins (Q)		
Coup_rel (R)		* (Q<R)
	Coup_impins2hosp (S)	**Coup_imphosp2ins (Q)**

Table 6) Results Wilcoxon test couple-specific characteristics, further specified

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Table 6 shows that within the couple-specific characteristics the relationship between the hospital and the insurer (determinant R) is regarded by hospitals as having more influence on the bargaining positions than the importance of the hospital to the insurer (determinant Q). Since the other comparisons show no statistically significant results, it is difficult to interpret these results.

- Importance of the hospital to the region, further specified:

Region_occ (T)	*** (T<|W)		
Region_otherhosp (U)	*** (U<W)	*** (T<U)	
Region_markshare (V)		*** (T<V)	*** (U<V)
	Region_cap (W)	**Region_occ (T)**	**Region_otherhosp (U)**

Table 7) Results Wilcoxon test importance of the hospital to the region

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

In the same manner as the previous ranking is put together, table 7 shows that according to hospitals the order of importance of the above determinants is:

1) Market share of the hospital in the region (V) and Capacity in the specific region (W)
2) Characteristics of other hospitals in the region (U)
3) Occupancy rate of the hospital (T)

As expected, since it is a much researched topic, the hospital's market share (V) scores high. This is also expected as we have seen that the insurer's market share scores high within the insurer characteristics (table 5). Since all the determinants in this category are very interrelated, it is interesting that significant differences were found and, thus, hospitals do seem to differentiate between the different determinants.

- Performance of the hospital in the area of public interests, further specified:

Pubint_qual (X)	*** (X>AA)		
Pubint_access (Y)	*** (Y<AA)	*** (X>Y)	
Pubint_wait (Z)	* (Z<AA)	*** (X>Z)	*** (Y<Z)
	Pubint_fin (AA)	**Pubint_qual (X)**	**Pubint_access (Y)**

Table 8) Results Wilcoxon test performance of the hospital in the area of public interests

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Again, based on table 8, a ranking of the importance of determinants can be made:

1) Hospital's quality (X)
2) Hospital's financial situation (AA)
3) Hospital's waiting times (Z)
4) Hospital's physical accessibility (Y)

This suggests that out of the public interests (quality, affordability, and accessibility) concerning health care, hospitals think quality (X) is the most important influence on bargaining positions, followed by affordability (AA), while accessibility (Y and Z) having the least influence. Since quality is quite difficult to measure it is interesting to find out that it is this important according to hospitals.

- Insurer's ability to steer its customers to preferred providers, further specified:

Steer_opin (AB)				
Steer_group (AC)	* (AC<AF)			
Steer_hcmed (AD)			** (AC<AD)	
Steer_selcont (AE)	*** (AE>AF)	*** (AB<AE)	*** (AE>AC)	*** (AD<AE)
	Steer_prefprov (AF)	**Steer_opin (AB)**	**Steer_group (AC)**	**Steer_hcmed (AD)**

Table 9) Results Wilcoxon insurer's steering instruments

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

The results in table 9 show that determinant AE, selective contracting combined with restricted or no reimbursement for use of non-contracted care, to be the most important steering instrument according to hospitals. This is the most aggressive way of channelling insurers' customers and therefore may be regarded by hospitals as being most influential on bargaining positions. However, the question is whether this instrument is applied often enough in the Netherlands to have a real actual influence.

Because of many statistically insignificant results the other determinants are more difficult to order according to their importance to bargaining positions.

4.3.2 SUBCONCLUSIONS

Within the first level of the determinant hierarchy (in Appendix E the hierarchy is shown), hospitals think insurer characteristics are less important to bargaining positions than hospital characteristics and couple-specific characteristics. This could mean insurers, according to hospitals, do not differ too much or it could mean that insurer do differ from each other, but the insurer characteristics are just not that influential on bargaining positions.

When looking at the hospital characteristics in the second level of hierarchy, hospitals think the importance of the hospital to the specific region and the hospital's negotiation team are important determinants. The relationship of the hospital with other health care providers is, relatively seen, the least important determinant of the hospital characteristics questioned. The importance of the negotiation team to bargaining positions is not a much researched topic and its importance according

to the hospital respondents was quite unexpected and may therefore be an interesting topic for further research and analysis.

The insurer characteristics in the second level of the hierarchy, show that hospitals think the insurer's market share is most important for the bargaining positions, followed by the insurer's negotiation team, and third the insurer's ability to steer its customers to preferred providers. So again the negotiation team is important, which is another reason to research this topic further.

The last set of questions in the second level of the hierarchy, the couple-specific characteristics, shows that the relationship between the hospital and the insurer is regarded by hospitals as having more influence on bargaining positions than the importance of the hospital to the insurer. It is difficult to draw any conclusions on these results since the other comparisons were not statistically significant.

For the set of questions about the importance of the hospital in the region, falling into the third level of the determinant hierarchy, hospitals think the hospital's market share in the region and the capacity in the region are of high importance to bargaining positions. The market share is a much researched topic and was therefore expected to have a large influence on bargaining positions.

The questions about the hospital's performance in the area of public interests, included the third level of hierarchy, show that hospitals think the hospital's quality is of most importance followed by the hospital's financial situation, thirdly the hospital's waiting lists, and fourthly the hospital's physical accessibility. The quality is a difficult to measure determinant and it is therefore interesting that it is viewed as having the most importance out of the public interests.

Hospitals think that within the last set of third level questions, concerning the insurer's instruments to steer its customers, the most aggressive instrument of channelling is the most important one to the bargaining positions: selective contracting combined with restricted or no reimbursement for use of non-contracted care. However, one may wonder whether this instrument is implemented by insurers very often at the moment.

4.3.3 INSURER RESPONDENTS: THEIR VIEW ON THE DETERMINANTS

The results of the Wilcoxon-tests for the scores the insurers respondents gave (4 insurers) are presented in the cross tables below. Again, the * symbols show the 2-tailed significance of the results. The letters show which determinant of the pair compared scored higher. A blank cell means that no significant result was found.

- Hospital characteristics, insurer characteristics and couple-specific characteristics:

Char_insur (A)		
Char_couple (B)		
	Char_hosp (C)	**Char_insur (A)**

Table 10) Results Wilcoxon test hospital, insurer, and couple-specific characteristics

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

As one can see in table 10 no significant results were found here, suggesting that according to the insurers these three types of characteristics are of equal importance. However, one must remember the small number of insurer respondents which makes it difficult to find any statistically significant results.

- Hospital characteristics, further specified:

Hosp_team (D)							
Hosp_pubint (E)							
Hosp_relpat (F)							
Hosp_relGP (G)	* (G<K)		* (E>G)				
Hosp_relhcp (H)	* (H<K)	* (D>H)	* (E>H)				
Hosp_relmedstaff (I)						* (H<I)	
Hosp_type (J)						* (H<J)	
	Hosp_ region (K)	**Hosp_ team (D)**	**Hosp_ pubint (E)**	**Hosp_ relpat (F)**	**Hosp_ relGP (G)**	**Hosp_ relhcp (H)**	**Hosp_ relmedstaff (I)**

Table 11) Results Wilcoxon test hospital characteristics, further specified

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Since many of the results in table 11 are not significant it is difficult to sum up a clear order of determinants. It seems however, that the relationship of the hospital with other health care providers (H) is regarded by insurers as having little influential on the perceived bargaining positions. This determinant was also regarded by hospital respondents as having the least influence out of the hospital characteristics.

- Insurer characteristics, further specified:

Ins_markshare (L)				
Ins_steering (M)		* (L>M)		
Ins_relcust (N)	* (N<P)	* (L>N)		
Ins_relGP (O)	* (O<P)	* (L>O)	* (M>O)	
	Ins_team (P)	**Ins_markshare (L)**	**Ins_steering (M)**	**Ins_relcust (N)**

Table 12) Results Wilcoxon test insurer characteristics, further specified

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

According to table 12, insurers seem to view the insurer's market share (L) as having an important influence on bargaining power. The relationship of the insurer with GPs (O) seems to have little influence, according to insurers. So just like hospitals, insurers also think market share is the most

important determinant and the relationship of the insurers with GPs is the least important out of the insurer characteristics.

- Couple-specific characteristics, further specified:

Coup_imphosp2ins (Q)		
Coup_rel (R)	* (R<S)	* (Q>R)
	Coup_impins2hosp (S)	**Coup_imphosp2ins (Q)**

Table 13) Results Wilcoxon test couple-specific characteristics, further specified

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Table 13 shows that the relationship between the hospital and the insurer (R) is regarded by insurers as having the least amount of influence on the bargaining positions out of these three determinants, while the importance of the hospital to the insurer (Q) and the importance of the insurer to the hospital (S) seem to have more influence according to the insurers. This is in line with the findings of section 4.2.1, where it was found that (1) insurers think the importance of the hospital to the insurer and vice versa is more important than hospitals think it is and (2) insurers think the relationship between the two parties is less important than hospitals think it is.

- Importance of the hospital to the region, further specified:

Region_occ (T)	* (T<W)		
Region_otherhosp (U)			
Region_markshare (V)	* (V<W)		
	Region_cap (W)	**Region_occ (T)**	**Region_otherhosp (U)**

Table 14) Results Wilcoxon test importance of the hospital to the region

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Since many results in table 14 are insignificant it is difficult, if not impossible, to interpret the results. However, it seems that the capacity in the specific region (W) does have influence on the bargaining positions, according to insurers. Interestingly, it scores above the hospital's market share (V), which is quite unexpected since the market share is a much researched aspect in studies about bargaining positions.

- Performance of the hospital in the area of public interests, further specified:

Pubint_qual (X)	* (X>AA)		
Pubint_access (Y)		* (X>Y)	
Pubint_wait (Z)		* (X>Z)	
	Pubint_fin (AA)	**Pubint_qual (X)**	**Pubint_access (Y)**

Table 15) Results Wilcoxon test performance of the hospital in the area of public interests

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

From the public interests concerning health care, insurers obviously think quality (X) is the most important influence on bargaining positions according to table 15. Again, this is in line with how hospitals valued hospital's quality and again, it is a quite interesting determinant since it is so difficult to measure hospital's quality.

- Insurer's ability to steer its customers to preferred providers, further specified:

Steer_opin (AB)				
Steer_group (AC)	* (AC<AF)			
Steer_hcmed (AD)				
Steer_selcont (AE)				
	Steer_prefprov (AF)	**Steer_opin (AB)**	**Steer_group (AC)**	**Steer_hcmed (AD)**

Table 16) Results Wilcoxon insurer's steering instruments

* 2-tailed significance α ≤ 0.100
** 2-tailed significance α ≤ 0.050
*** 2-tailed significance α ≤ 0.010

Since many of the results in table 16 are not significant it is difficult to draw any conclusions on this.

4.3.4 SUBCONCLUSIONS

When comparing the insurers' scores in the first level determinants, no significant differences were found between the scores they gave to insurer characteristics, hospital characteristics, and couple-specific characteristics.

For the hospital characteristics in the second level of the hierarchy, insurers seem to value the relationship of the hospital with other health care providers of relatively little importance to the bargaining positions. This is similar to how hospitals think about this determinant.

In case of the insurer characteristics in the second level of the hierarchy, insurers seem to view the insurer's market share as having an important influence on bargaining power and the relationship of the insurer with GPs to have little influence. Again, this is similar to the view of hospital respondents.

The last set of questions in the second level of the hierarchy, the couple-specific determinants, shows that insurers value the relationship between hospital and insurer of less importance to bargaining positions than their mutual dependence. In chapter 5 we will further analyse which consequences this may have.

Within the determinants indicating the importance of the hospital of the region, included in the third level of the hierarchy, insurers score the capacity in the specific region to be of higher importance to bargaining positions than the hospital's market share. This differs from the hospital's view on these determinants.

When looking at the performance of hospitals in case of public interests, insurers think quality is most influential on bargaining positions. This is similar to the hospitals' view. Again this is an interesting point since the hospital's quality is very difficult to measure.

The insurer's steering instruments, which form the last set of questions in the third level of the hierarchy, do not show a clear picture when looking at the scores insurers gave to these instruments.

4.4 QUESTIONNAIRE RESULTS: PERCEIVED BARGAINING POSITION

To conclude this chapter, some statistical tests were done to check whether different respondent groups perceive bargaining positions differently:

1) Differences in perceived bargaining positions between insurers and hospitals (MW test)
2) Differences in perceived bargaining positions between types of hospitals (KW test)
3) Differences in perceived bargaining positions between the sizes of hospitals (KW test)
4) Differences in perceived bargaining positions between the regions were hospitals are located (KW test)

All of the above tests were done for only the following answering categories: weaker than the other party, equal to the other party, and stronger than the other party. The reason for this was that the measurement level would be ordinal (instead of nominal when also including the other two categories), which is the necessary measurement level to perform the MW test and the KW tests. None of the above tests showed any statistically significant differences (statistical significance of at least 10%).

To get a view on what answers were given, a pie chart for hospitals and insurers together was made:

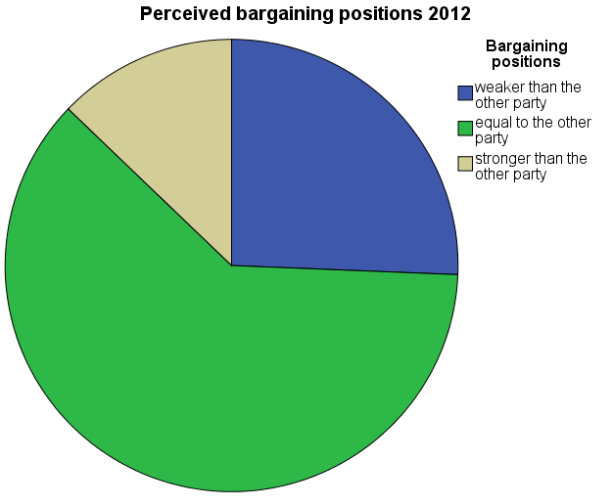

Figure 1) Perceived bargaining positions, 3 answering categories

As one can see in figure 1, most respondents replied to perceive their bargaining position as equal to the other party. The smallest answering category is, as expected, the respondents perceiving to have a stronger bargaining position than the other party. However, this category is chosen by some of the

respondents and can therefore not be ignored. Including the other two answering categories, the pie chart changes to:

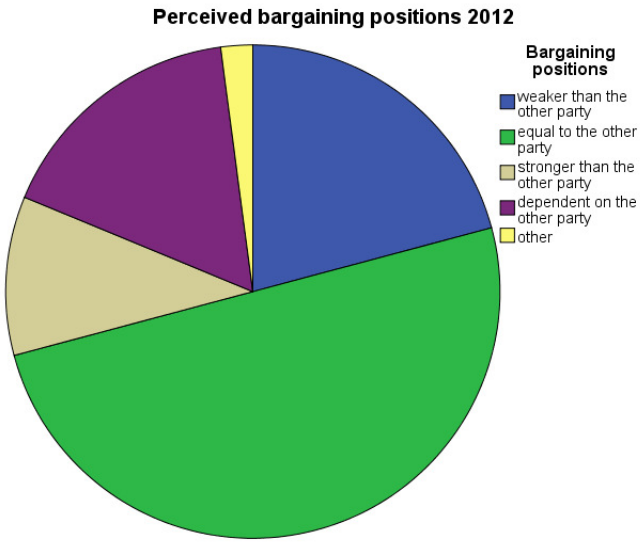

Figure 2) Perceived bargaining positions, 5 answering categories

As shown in figure 2, the “other” category was only used once but the pie chart shows quite a few respondents saying their bargaining positions to be dependent on the party they were negotiating with. This might suggests that for some negotiating parties the bargaining situation is quite complicated since it depends on their counterpart.

Next to a question about the perceived bargaining positions in the 2012 negotiations, also a question about the respondent’s opinion about the 2012 negotiations. Since it was an open question and answers varied widely, no analysis was performed for these answers. However, one can conclude the answers varied widely in content and in length.

5. CONCLUSIONS, LIMITATIONS, AND POLICY IMPLICATIONS

This chapter will sum up the most important conclusions from the research results presented in the previous chapters. Second, it will discuss the limitations of this research and the consequences of these limitations. Last but not least, some implications of this research for the NMa will be presented.

5.1 CONCLUSIONS

The first stage of this thesis research, containing a literature search and interviews, served as an input to the second stage of questionnaires. In this questionnaire 32 determinants were listed for the respondents (including both hospitals and health insurers) to score. Based on their scoring, any differences between the answers of different respondent subgroups were analysed and differences between the determinants' scores in importance were reviewed. This was done separately for the hospital respondents and the insurer respondents. Here I will only summarize the most important conclusions that are relevant for answering the main research question and the subquestions defined in the introduction of this thesis:

Main research question:
How do both Dutch hospitals and health insurers perceive their bargaining position and what determinants seem to influence their perceived bargaining positions during the bargaining process?

Subquestions:

1. *What do we know from the international literature about (i) insurers' and hospitals' bargaining clout and (ii) the outcomes of insurer-hospital bargaining?*
2. *How do Dutch hospitals perceive their bargaining position during the bargaining process?*
3. *What determinants influence the perceived bargaining position of the Dutch hospitals during the bargaining process?*
4. *To what extent do these determinants influence the perceived bargaining position of Dutch hospital during the bargaining process?*
5. *How do Dutch health insurers perceive their bargaining position during the bargaining process?*
6. *What determinants influence the perceived bargaining position of the Dutch health insurers during the bargaining process?*
7. *To what extent do these determinants influence the perceived bargaining position of Dutch health insurers during the bargaining process?*

To keep this chapter focused on the main research question, I will refer for the answer of subquestion 1 to chapter 3.1. Subquestions 2 to 7 are parts of the main research question and will be answered below.

It is important to mention that the number of insurers participating in the questionnaire was low and therefore the conclusions below should be interpreted carefully.

In the analysis of the respondents' subgroups, the first two subgroups to be compared with each other were the hospitals and insurers. Hospitals view the relationship between hospital and insurer as more important to bargaining positions than insurers do and insurers think the mutual dependencies between the two parties influences the bargaining positions more than hospitals think they do. In practice, this may lead to different starting points and different aims for both parties during negotiations. This is because a focus on the relationship means a focus on something you have and build together, a focus on dependencies can be misbalanced since one party being dependent on the other party does not guarantee the same dependence the other way around. Bargaining *power* may be more of an issue during negotiations when focusing on these dependencies. This would be an interesting topic to research further, for example by analysing the relationship between these two perspectives (the first being focused on the relationship and the second having a focus on mutual dependencies) and the chosen negotiation strategies. Between hospitals, some interesting results were found but these results were difficult to interpret.

When comparing determinant scores with each other for the hospital respondents only, it shows hospitals think insurer characteristics are less important to bargaining positions than hospital characteristics and couple-specific characteristics. This could mean that the differences between insurers in the perspective of hospitals are small or it could mean that these characteristics do not really matter to the hospitals. For example, because they believe their bargaining position is quite strong.

Within the hospital characteristics, hospitals think the importance of the hospital to the specific region and the hospital's negotiation team are important determinants. Especially the influence of the hospital's negotiation team on bargaining power is a less researched topic and this is therefore an interesting outcome. In practice, this may mean that a hospital with a strong negotiation team may have quite a lot of bargaining power. This would be an interesting investment for hospitals with little bargaining power for example because of their small market share. The relationship of the hospital with other health care providers is viewed as the least important of the hospital characteristics.

For the insurer characteristics, hospitals think the insurer's market share is most important for the bargaining positions, followed by the insurer's negotiation team, and the insurer's ability to steer its customers to preferred providers. Hence, again the negotiation team scores high suggesting that it may be wise for insurers with a small market share to invest in their negotiation teams to gain bargaining leverage.

The questions about the hospital's performance in case of public interests show that hospitals think the hospital's quality is of most importance, followed by the hospital's financial situation, the hospital's waiting lists, and the hospital's physical accessibility. This suggests a hierarchy of public interests during bargaining situations in the view of hospitals. Since the hospital's quality is difficult to measure it

may be wise for hospitals that regard themselves as providing high quality care to invest in the development of quality measurement and thereby maybe improving their bargaining position.

Hospitals think that within the questioned insurer's instruments to steer its customers, the most aggressive instrument of channelling is the most important one to the bargaining positions: selective contracting combined with restricted or no reimbursement for use of non-contracted care. One may say that based on this, insurers may want to invest in using this instrument to improve their bargaining power. However, we should not forget about the insurers' customers and their view on this instrument. Therefore it might be better to first research how the customers would feel about the use of this instrument to prevent losing customers. This instrument is also very much related to the ability to measure quality. When quality measurement improves insurers may be able to base their selective contracting strategies on very strong arguments which may lead to more understanding from their customers. One must also realise that according to the hospitals, insurer characteristics are less important than hospital characteristics and couple-specific characteristics. Within the insurer characteristics, hospitals give a relatively low score to the insurer's ability to steer compared to the insurer's market share or negotiation team. A relatively high score for one instrument within this already low scoring determinant about ability to steer, may in practice not be of much importance.

When comparing determinant scores with each other for the insurer respondents only, it shows that – just like the hospital respondents – insurers seem to value the relationship of the hospital with other health care providers of minor importance to the bargaining positions compared to other hospital characteristics.

For the insurer characteristics, insurers view the insurer's market share as having an important influence on bargaining power. So it is less clear from these results how insurers feel about the influence of the hospital's negotiation team and the insurer's negotiation team on bargaining power. This reduces the strength of the aforementioned suggestion to invest in negotiation teams to improve bargaining power.

As expected from aforementioned comparisons between insurers and hospitals, insurers value the relationship between hospital and insurer of less importance to bargaining positions than their mutual dependence.

In line with the hospitals' view, also insurers think that from the public interest mentioned in the questionnaire (i.e. quality, financial situation, physical accessibility, and waiting times) quality is most influential on bargaining positions. This strengthens the importance of investing in the improvement of quality measurement, so these measurements will be based on reliable instruments drawing a clear and complete picture picture of the hospital's quality.

The question about perceived bargaining positions indicates that, although no statistical analysis was performed for this, most respondents perceived themselves as having an equal bargaining position as the other party. Interestingly, also some respondents viewed themselves as having a stronger position. This shows how complicated the bargaining situation is in reality and how situations and parties may differ from each other.

5.2 LIMITATIONS

Although it was tried to research the topic of hospital-insurer bargaining in depth by combining qualitative research and quantitative research this thesis still has some limitations, including the following.

The first stage of the research shows some shortcomings in the completeness of the literature review and the subjectivity of interpretations of the interviews. However, these are not major shortcomings since the first stage only served as input for the second stage. The second stage therefore could make up for some of the shortcomings.

Also the second stage of the research has some limitations. First, the questionnaire was anonymous and therefore it cannot be guaranteed that each possible respondent only filled out the questionnaire once. However, the incentive to do it more than once is small and can therefore be ignored.

Second, the scores were only relative scores. In the end we only know something about how each individual respondent ranked different determinants (within one set of questions, e.g. “hospital characteristics”) but not what this ranking in absolute numbers means. A score of 100 can mean the determinant is really very important but it can also mean it is the most important determinant out of a set of very unimportant determinants. Only a score of 0 can be seen as an absolute score, indicating the determinant is not of any importance to the bargaining positions.

Third, determinants from different sets were not compared with each other. For example, the determinant scores of “hospital’s negotiation team” were not compared with the scores of “insurer’s negotiation team” or “quality of the hospital”. This is a disadvantage but it was a deliberate choice to limit the research this way. Comparing determinants from different sets of questions or even different levels in the hierarchy with each other is certainly possible but would be more complex and some difficulties in interpretation would need to be faced.

Fourth, it is debatable whether the method to automatically score determinants with zero points that fall into a cluster that was scored zero. As explained in chapter 4, if a determinant cluster in the first level of the determinant hierarchy (e.g. insurer characteristics) was scored 0, the accompanying sub-clusters in levels 2 (e.g. insurer’s ability to steer its customers) and 3 (e.g. the instruments the insurer could use to steer its customers with) were automatically valued 0 as well. Or if one of the clusters in level 2 (e.g. hospital’s performance in case of public interests) was valued 0 and it had any sub-

clusters in the 3rd level of the hierarchy (for this example: hospital's quality, financial situation, accessibility, and waiting times), these were valued 0 automatically. One may argue that it may be better to not value the subclusters, falling into a main cluster which was valued as zero, at all and thus reducing the number of respondents answering the questions about the subcluster determinants. Both methods have pros and cons, but it is important to mention this since it may have influenced the results and therefore the conclusions.

5.3 POSSIBLE POLICY IMPLICATIONS FOR THE NMA

As a final part of this thesis, I would like to make some policy suggestions to the NMa:

- Next to market share, also the insurer's and hospital's negotiation team should not be forgotten when analysing hospital-insurer bargaining. Having a good negotiation team is of course not illegal but one could imagine that two parties merging do not only enlarge their market share but may also improve their negotiation teams. Therefore, in reality, merging parties may get stronger bargaining positions than when analysed solely by focusing on market share. For example, two hospitals merging may have to different views on negotiations and two different fields of expertise and experience during these negotiations. By combining these views and expertise their bargaining power may grow more than predicted by their combined market share alone. By this I do not suggest whether this should influence their permission to merge in the first place but it is something to consider when predicting a market situation post-merger. However, the negotiation team is a broad and therefore somewhat vague term and may have to be analysed further before being able to reflect how merged negotiation teams may add to bargaining power.
- Hospital's quality, compared to the other public interest outcomes, seems to play an important role during negotiations. It would be interesting to research whether quality is an input of negotiation to gain leverage or a positive outcome of some negotiations. The latter would suggest that one or both parties negotiating has the goal of improving quality through hospital-insurer bargaining. I would also recommend the NMa to keep itself updated in the latest hospital quality information and quality measurement techniques. This may not directly influence the NMa's antitrust enforcement task but may give more insight in the complexity of hospital-insurer bargaining which may be more than an exchange of care for money. This insight may indirectly help the NMa to fulfil its market monitoring role together with the NZa. After all, if quality turns out to be an input and/or an outcome of the bargaining process it is very much intertwined with the economic side of the bargaining process and it would be important for the NMa to understand this role of quality.
- According to the hospitals, insurer characteristics are less important than hospital characteristics and couple-specific characteristics. Within the insurer characteristics, hospitals give a relatively low score to the insurer's ability to steer compared to the insurer's market share or negotiation team. It is thus possible hospitals may value the ability to steer as less important and this may therefore have little influence on negotiations. This could mean a

change in the NMa's perspective on the approval hospital mergers for which the insurer's ability to steer may have played a large role in the past.

- The interviews showed the importance of the many changes going on in the health care sector. Government policies and regulations seem to influence bargaining positions as well and may be more advantageous to one bargaining party over another. In NMa's attempt to shape a fair market for everyone it is important to research this topic when changes in health care are introduced.

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Appendices

APPENDIX A: LITERATURE SEARCH TERMS

Search in Sciencedirect:

((title-abstr-key(bargain*)) OR (title-abstr-key(negotiat*)) OR (title-abstr-key(contract*)) OR (title-abstr-key(discount*)) OR (title-abstr-key(agree*)) OR (title-abstr-key(deal*)) OR (title-abstr-key(power*)) OR (title-abstr-key(position*))) AND ((title-abstr-key(hospital*)) OR (title-abstr-key("*care provider*"))) AND ((title-abstr-key(insur*)) OR (title-abstr-key(buyer*)) OR (title-abstr-key(purchaser*)) OR (title-abstr-key(HMO*)) OR (title-abstr-key("health maintenance organi?ation*")) OR (title-abstr-key(PPO*)) OR (title-abstr-key("preferred provider organi?ation*")) OR (title-abstr-key(indemnity)) OR (title-abstr-key(MC*)) OR (title-abstr-key("managed care")) OR (title-abstr-key(IPA*)) OR (title-abstr-key("independent practice association*")) OR (title-abstr-key(POS)) OR (title-abstr-key({point of service})))

Search in WebOfScience (4th step is the one that was applied for the search):

1. Topic=(insur*) OR Topic=(purchaser*) OR Topic=(hmo*) OR Topic=("health maintenance organi?ation*") OR Topic=("managed care") OR Topic=("preferred provider organi?ation*") OR Topic=(indemnity) OR Topic=("independent practice association*") OR Topic=("point of service")
Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH Timespan=All Years
Lemmatization=Off
2. Topic=(bargain*) OR Topic=(negotiat*) OR Topic=(discount*) OR Topic=(power*) OR Topic=(position*)
Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH Timespan=All Years
Lemmatization=Off
3. Topic=(hospital*) OR Topic=("health care provider*") OR Topic=("healthcare provider*")
Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH Timespan=All Years
Lemmatization=Off
4. #3 AND #2 AND #1
Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH Timespan=All Years
Lemmatization=Off

About the selection of articles the following comments apply:

- The amount of literature to be found on the topic of merger or consolidation analysis and post-merger case studies is extremely large and only relates to the topic of this thesis in an indirect manner, therefore I decided not to include much of this literature.
- The main focus of the literature search was on the B-segment and therefore on bilateral bargaining in which prices and quality can be freely negotiated between multiple insurers and multiple hospitals. UK articles about NHS trusts, British Health Authorities, and GP fund-holding were excluded, since the system deviates very much from the Dutch system and it is therefore hard to translate it to the Dutch context.
- Purely theoretical papers were excluded; to be included an empirical application of the theory needed to be present in the article itself.
- No articles are used that could not be achieved digitally for free or without subscription through the used databases (either as a link-out provided by the database or the full-text itself provided by the database, using the university internet connection).

- Only articles written in English or Dutch were included.
- No papers are included discussing the influence of competition on quality, since it is often not clear whether quality is an outcome or an input of the hospital-insurer negotiations. This is often different for price studies, since prices are almost always (except for the case of regulated prices) up for negotiation. Studies about the effect of competition on prices are included, when the aim is to investigate prices paid by insurers or health plans and not the prices paid out-of-pocket by patients.

In general, the selection of whether articles were relevant to my thesis and were *adding* something to the literature already included was based on three steps:

1. First selection based on the title of the article
2. If the title seemed relevant to my topic, the next step was to select based on the abstract or summary
3. If the abstract seemed relevant to my topic, the next step was to select based on reading the full article

However, since the search resulted in many useful articles, even after applying the above comments and selection steps, and because of the limited time available for the literature search, not all articles that passed the selection were actually read and included in the literature results. Therefore, the chosen articles should be seen as an attempt to draw a broad picture of the bargaining positions of hospitals and insurers and the related determinants, without trying to present a full literature review. To give an example, too much literature on the relationship between price and concentration was found for all of it to be included in my literature research, so only a limited amount of articles was included on this topic.

APPENDIX B: POSSIBLE DETERMINANTS OF BARGAINING POWER FROM LITERATURE

The articles below are in alphabetical order. Only the variables that are the main focus of the specific article (although some other variables might, either directly or indirectly, have an effect also) are included as possible determinants for hospitals' or insurers' bargaining power. Also, interaction variables were also not included in the excel sheet.

Sometimes interpretation of data and reports can be difficult. E.g. if an author says bargaining power means being able to steer customers → is this ability to steer then a determinant of bargaining power or just part of the definition of bargaining power? These kind of dilemmas I left over to my own interpretation of the text but may not be similar to the interpretation of the original author of the article or report.

For the most part, the information about the articles below is based on quotation, to stay as close to the goal of the article and the names of the variables as possible.

Adamache & Sloan (1983) – Competition between non-profit and for-profit health insurers

"This paper investigates the effect of selected tax and regulatory policies and other factors exogenous to the health insurance market on the relative (to the commercials) price paid by Blue Cross plans for hospital care, their administrative expense and accounting profits, premiums, and ultimately Blue Cross market share" (227-228). Table 1 of this paper shows all the endogenous and exogenous variables. Since the focus is on exogenous variables I will regard these as possible determinants on the bargaining position. However, I do realize that the bargaining power or position of insurers is not directly measured in this study, so assuming the exogenous variables to be possible determinants of the bargaining position is my own interpretation:

- "Premium tax rate on Blue Cross (percent)" (232)
- "Premium tax rate on 'foreign' commercial insurers (percent)" (ibid.)
- "Charges to Blue Cross patients covered by state-mandated hospital rate-setting program" (ibid.)
- "Charges to commercially-insured patients covered by state-mandated hospital rate-setting program" (ibid.)
- "Blue Cross premiums require approval by state insurance commissioner" (ibid.)
- "Proportion of hospital inpatient days in Blue Cross plan area covered by Medicare and Medicaid" (ibid.)
- "Community hospital beds per 1,000 Blue Cross plan area population" (ibid.)
- "Proportion of Blue Cross plan area population in SMSAs" (ibid.)
- "Proportion of state non-agricultural work force unionized" (ibid.)
- "Local Blue Shield plan sells hospital coverage" (ibid.)
- "Blue Cross plan sells medical/surgical coverage" (ibid.)
- "Joint Blue Cross/Blue Shield plan financial data combined" (ibid.)

- "Plan processes any Medicare Part B claims" (ibid.)
- "Mean wage of service workers in local labor market" (ibid.)
- "Blue Cross area population under age 65 (millions)" (ibid.)
- "Commercial 'loading' per protected person" (ibid.)

Bamezai, Melnick, Mann & Zwanziger (2003) – Hospital selective contracting without consumer choice: what can we learn from Medi-Cal?

One of the models they use is a probit model that includes the following "explanatory variables to capture the relative bargaining position of hospitals with respect to Medi-Cal" (70) (excluding the control variables):

- "Hospital competition" (ibid.) ("patient-origin" (ibid.) HHI)
- "Hospital's dependence upon Medi-Cal" (ibid.) ("share of a hospital's total inpatient days accounted for by Medi-Cal" (ibid.))
- "Medi-Cal's dependence on a specific hospital" (ibid.) ("hospital's share of total Medi-Cal days in its market" (ibid.))
- "Hospital occupancy rate" (ibid.)
- "Market occupancy rate" (ibid.)

Bates & Santerre (2008) – Do health insurers possess monopsony power in the hospital services industry?

The focus in this paper is on testing "whether health insurers possess monopsony power" (9) "by observing the impact of health insurer concentration on the quantity of hospital services" (ibid.). I will interpret the health insurer concentration as a possible determinant of bargaining power and the quantity of hospital services as a possible outcome of bargaining power:

- Insurer market concentration: "HMO-HHI" (7) and "PPO-HHI" (ibid.)

Berenson, Ginsburg, Christianson & Yee (2012) – The growing power of some providers to win steep payment increases from insurers suggests policy remedies may be needed

In this article they present interview results. Since it is a qualitative study I cannot present the possible determinants as being variables from some equation. Therefore, I will regard all the factors that are mentioned in the "Study Results" (974) section that have a ship with "hospital leverage" (975) (or hospital market power or a related topic) in this article as possible determinants of bargaining power:

- Whether a hospital has "particular attributes – for example, a unique service, such as organ transplantation" (974-975)

  Whether a hospital has "a level 1 trauma center or similar highly specialized service that [is] provided to the whole community" (975)

  Whether a hospital provides "an important, unique service" (ibid.)

  Whether a hospital provides "specialized services otherwise unavailable or limited in the market, including a children's hospital or a neonatal intensive care unit, a designated level 1 trauma center, or a designated organ transplant or burn center" (ibid.)

- Whether health plans attempt to maintain “alternatives to powerful hospital systems” (ibid.) (e.g. by keeping hospitals that are possible alternatives “reasonably strong” (ibid.))
- The “employer resistance to choice-limiting networks with few providers” (ibid.) (“[w]ithout a credible threat of excluding a provider from their networks, health plans lack an important bargaining chip” (ibid.))
- “[I]n areas where bed supply is tight, hospitals can be more demanding” (ibid.)
- Reputation of the hospital or hospital system
- Whether the hospital is an academic health center. “With only rare exceptions in the twelve sites, academic health centers now have leverage because their expertise at tertiary and quaternary care is mostly unrivaled by other area hospitals” (ibid.)
- “[U]nique characteristics of hospital markets” (ibid.) (e.g. four competing hospitals with different services)
- Whether hospital has “relative geographic isolation . . . because health plans now are reluctant to ask enrollees to travel far to seek routine or even specialized hospital care” (ibid.)
- Whether the hospital is part of a multi-hospital system (“many multihospital systems extend over broad geographic areas and have escaped antitrust scrutiny” (976))
- Whether a hospital has “a large employed physician contingent” (977)
- Size of the hospital or hospital system
- “[H]ow much of an insurer’s patient volume [the hospital or hospital system] generates” (976)
- Whether a health plan has an aggressive attitude in negotiations. I have interpreted the following examples and quotes as underlying reasons:
    - A respondent mentioned that in the case of two big players (a must-have hospital and Blue Cross Blue Shield), the players “ ‘have to come to terms’ ” (977)
    - “[T]o a large extent, health plans have accepted the reality of provider leverage and its effects on employer health care costs” (ibid.)
    - An interviewee observed that “ ‘[t]here is a dynamic in the market that makes it impossible for a private payer to change anything’ ” (ibid.). The interviewee mentioned a specific incident that insurers “ ‘never recovered from’ ” (ibid.) and that “ ‘showed that employers would not support plans in show-downs against hospital systems’ ” (ibid.).
    - According to a provider, “ ‘Anthem is in a position to “dictate prices” but it doesn’t because “it just needs to do better than the competition” ’ ” (977-978).
    - According to an interviewee “ ‘Blue Cross Blue Shield has [a] deep and abiding truce with hospitals’ ” (978)
    - “A Blue Cross Blue Shield executive noted, ‘It makes our job even harder because we have such a big impact [on] them financially because of that [large] footprint. If we had 5 percent of the market, I think our negotiations would be easier’ ” (ibid.).
    - “Respondents suggested that, because they effectively lack competition, dominant Blue Cross Blue Shield plans can accommodate substantial price increases and pass them on in the form of higher premiums” (ibid.)

I excluded whether the hospital is a must-have hospital, because I assumed must-have status is dependent on a lot of the above factors. I excluded factors relating to the Affordable Care Act and health reform, since this is specific to the United States and is hard to translate to the Netherlands.
Some of the above study results do not (solely) seem to be based on the interviews, but also on literature the authors refer to. I have not specified the primary source in the above list of possible determinants.

Berenson, Ginsburg & Kemper (2010) – Unchecked provider clout in California foreshadows challenges to health reform

Similar to Berenson et al. (2012) this is also qualitative research. I will interpret the following factors in the "Study Results" (700) section of the article as possible determinants:

- "If plans cannot exclude providers from their network because of customers' demand for broad networks, they cannot credibly threaten network exclusion. That fact undermines their ability to resist providers' demands for higher payment rates" (701).
- "[D]windling hospital bed and physician workforce capacity that evolved in many parts of the state" (ibid.).
- "[A] regulatory environment in the aftermath of the managed care backlash that appears to favor providers in negotiations" (ibid.).
- "Horizontal hospital integration" (702) sometimes resulting in hospital systems "adopting an "all or none" negotiating strategy, which means that a single contract defines the terms" (ibid.).
- " "[M]ust-have" providers – especially hospitals – that must be included in a plan's provider network to make the plan acceptable to customers" (ibid.). " "[Mu]st-have" providers' strong negotiating position is not necessarily derived from size but rather by factors not typically part of antitrust analysis" (ibid.): "reputation" (ibid.); "providing unique, specialized services, which the hospital then uses to demand and win higher rates for all services" (ibid.). Also: "[p]rovider consolidation has expanded the proportion of hospitals with "must-have" status" (ibid.).
- "Joint hospital and physician-group negotiation" (ibid.)
- "Multispecialty and single-specialty medical groups" (703): "[t]he large multispecialty group practices and IPAs that survived the shake-out of the 1990s can now exercise substantial market power. They do so by virtue of the lack of price competition for their services, facilitated by the market requirement for plans to have broad networks" (ibid.). "[Multispecialty groups and IPAs] now . . . wield their considerable market clout to negotiate favorable payment rates and other contractual terms with HMOs" (ibid.). "California physicians also are forming single-specialty groups to gain additional advantages when negotiating for PPO contracts" (704).

"Moderating [i]nfluences" (ibid.):

- "Some providers may balance their desire for high prices with the fragility of employer-sponsored insurance in their communities" (ibid.).

- "[M]edical groups in particular are concerned about the demise of capitation and the replacement of HMO products with PPOs, blunting their desire to drive as hard a bargain as they could" (ibid.).
- "[P]resence of Kaiser Permanente" (ibid.)
- "[S]ome providers specifically attempt to provide the same rates to all insurers out of concern that obtaining higher rates from smaller insurers would drive them from the market and further contribute to market dominance by a few plans" (ibid.).

Brooks, Dor & Wong (1997) – Hospital-insurer bargaining: An empirical investigation of appendectomy pricing

There does not seem to be a particular focus on certain variables. Therefore, I will interpret all variables in the categories of "[m]arket characteristics" (426), "[h]ospital characteristics (ibid.), and "[f]irm characteristics" (427) as possible determinants of bargaining power:

- "Market characteristics" (426): "[n]umber of years beyond 1987 in which the Marketscan episode occurred" (ibid.); "[a]ppendectomy-specific Herfindahl index in the year the Marketscan episode occurred" (ibid.); "[n]umber of hospitals performing appendectomies in the county in the year the Marketscan episode occurred" (ibid.); "MSA-level HMO penetration rate in the year the Marketscan episode occurred" (ibid.); dummies for different states
- "Hospital characteristics" (ibid.): ownership hospital (public, voluntary, for-profit); whether hospital is part of a multi-hospital system; "[h]ospital bed capacity" (427)
- "Firm characteristics" (ibid.): whether firm is publicly-traded; whether firm "is on the 1992 list of Fortune 500 manufacturing or Fortune 500 service firms" (ibid.); ownership firm ("foreign-owned" (ibid.), "[g]overnment-owned" (ibid.), "privately-owned" (ibid.)); "[f]irm is in a manufacturing-oriented SIC code (1, 2 or 3)" (ibid.); "[a]n estimate of the total inpatient discharges that the respective firm had in the county and year of the Marketscan episode" (ibid.); "estimate of the proportion of discharges in the county attributable to the firm" (ibid.)

Burgess Jr., Carey & Young (2005) – The effect of network arrangements on hospital pricing behavior

The main "focus was to compare the competitive impact of networks (contractual) to that of systems (common ownership)" (395). The effect on prices is not the same as the effect on the bargaining position. However, I will consider this effect on prices to reflect an effect on the hospitals' bargaining position. For this research three variables and an indicator variable were designed:

- Membership to a network and/or to a system: they "considered hospitals linked by systems but not networks as a single hospital (HHI-S)" (ibid.); they "created a measure where only hospitals linked by networks were considered to be a single hospital (HHI-N)" (ibid.); and they had a "measure to consider hospitals linked by networks or systems as a single hospital (HHI-SN)" (ibid.); and "Sys/Net" (397) (indicator variable for "those [hospitals] that simultaneously were members of both a network and a system and were networked with at least one other hospital in that same system" (ibid.))

Burns, Bazzoli, Dynan & Wholey (2000) – Impact of HMO market structure on physician-hospital strategic alliances

The focus of this article is "physician-hospital alliances" (103), but this is the dependent variable. However, the authors do conclude, amongst other things, that alliances "serve . . . to pose a countervailing bargaining force of providers in the face of HMO consolidation" (101). Therefore I will interpret the topic of this article as a possible determinant of bargaining power:

- "Physician-hospital alliances" (103)

Capps, Dranove & Satterthwaite (2003) – Competition and market power in option demand markets

The basic idea of this article is about how much more consumers are willing to pay for the inclusion of a hospital in the insurer's network. Because of the complicated methods used, I have focused on the "Estimation" (752) section, where they use the utility function in equation 1 as the first step in obtaining the "aggregate willingness to pay" (ibid.). The variables used for this (and interpreted by me as possible determinants of the bargaining position) are:

- "[H]ospital-specific variables that are constant across all patient conditions" (ibid.): "ownership type" (ibid.); "teaching status" (ibid.); "a dummy for transplant services (indicating a "high-tech" hospital)" (ibid.); measure of "equipment intensity" (ibid.); measure of "nursing intensity" (ibid.)
- "[T]ravel time" (ibid.)

Interaction variables are not included as possible determinants. Since part of these interaction variables are possible determinants not included in "hospital-specific variables that are constant across all patient conditions" (ibid) or "travel time" (ibid), I will include these parts of the interaction variables as possible determinants as well:

- "[P]atient-specific clinical and demographic variables" (ibid.)
- "[P]atient characteristics" (ibid.)
- "[D]iagnosis dummies" (ibid.)
- "[H]ospital service offerings" (ibid.)

Because of the complicated methods I will only use this first step toward getting the "aggregate willingness to pay" (ibid.) to select possible determinants of the bargaining position.

Ciliberto & Dranove (2006) – The effects of physician-hospital affiliations on hospital prices in California

Since the authors examine "the effects of vertical integration [between hospitals and physicians] on prices" (30), I will regard the following as the possible determinant on the bargaining position:

- Whether the hospital is vertically integrated with physicians

Devers, Casalino, Rudell, Stoddard, Brewster & Lake (2003) – Hospital's negotiating leverage with health plans: How and why has it changed?

Since this research is based on a mixture of primary qualitative, secondary quantitative and secondary qualitative data, I will not look at certain variables to select possible determinants, but I will look at the study results.

"Changes in three areas – the policy and purchasing context, managed care plan market, and hospital market – appear to explain why hospital's leverage increased, particularly over the last two years (2000-2001)" (419). These will be regarded as possible determinants of bargaining power:

- "Policy and [p]urchasing [c]ontext" (432): "[h]ealth plan regulation" (ibid.); "[e]mployer/employee demand for "Choice" " (ibid.); "[f]lat or declining enrolment in Medicare and Medicaid managed care programs" (ibid.)
- "Characteristics of [p]lan [m]arket" (ibid.): "[l]ess HMO growth than anticipated" (ibid.); "[l]ess restrictive HMO products" (ibid.) ("[l]ess selective contracting" (ibid.), "[l]ess risk-contracting" (ibid.), and "[l]ooser UM practices" (ibid.)); "[a]bility to absorb hospital payment rate increases due to rising premiums" (ibid.); "[p]lan consolidation" (ibid.) ("However, the decline in the number of HMOs was generally not accompanied by an increase in consolidation as measured by the [..] [HHI]" (434))
- "Characteristics of [h]ospital [m]arket" (432): "[c]onsolidation" (ibid.); "[b]rand name identity" (ibid.); "[p]hysician integration" (ibid.); "[c]apacity constraints located in key geographic submarket" (ibid.); "[f]inancial pressure" (ibid.)

Results were based on primary and secondary data. In the above list I have not specified the primary source of the results.

Dor, Grossman & Koroukian (2004a) – Hospital transaction prices and managed-care discounting for selected medical technologies

In this article, the variables directly influencing the relative bargaining power are:

- "[H]ospital characteristics and its market" (353): "[c]ardiac Herfindahl index" (355); hospital teaching status ("[m]ajor teaching" (ibid.); "[m]inor teaching" (ibid.)); hospital for-profit status
- "[T]ype of insurance plan and market-structure for the insurer-firm" (353): "HMO penetration rate calculated over MSA's" (354); "percentage of employees in the county in large firms of 100 employees or more" (ibid.); "[i]nsurance type" (355) (FFS; "Major-medical" (ibid.); "PPO" (ibid.); "HMO" (ibid.))
- "[P]atient heterogeneity" (353)

Dor, Koroukian & Grossman (2004b) – Managed care discounting: evidence from the MarketScan database

The article is not completely clear about it, but I will interpret all variables in the price equation as possible determinants of the bargaining position:

- "[P]roduct heterogeneity" (162): "variations in the way angioplasty is done, which are observed at the patient level" (ibid.)
- "[C]ase mix" (ibid.): "summary measure for the overall severity of patients in the hospital admitted for this procedure" (ibid.) ("The measure of the hospital's case mix or severity (for

angioplasty patients) will be based on its *expected mortality rate* [and] [i]n an alternative specification, [they] include the *standardized mortality rate*, . . . which is taken as an adverse measure of the hospital's clinical performance" (162-163))

- "[H]ospital characteristics" (162): "teaching status" (ibid.); "ownership" (ibid.) ("[p]ublic hospital" (ibid.); "[p]rivate for-profit" (166); "[p]rivate nonprofit" (ibid.))
- "[I]nsurance characteristics" (162): "type of insurance plan" (ibid.) ("[m]ajor medical" (ibid.); "PPO" (ibid.); POS-HMO; Fee-for-service (166))
- Market structure: Herfindahl index for hospital markets; "HMO penetration at MSA level" (162)

Dranove, Lindrooth, White & Zwanziger (2008a) – Is the impact of managed care on hospital prices decreasing?

The focus of this article is on the relationship between price and concentration. Since concentration influences price, I interpret this as concentration also influencing the bargaining position. A possible determinant is thus:

- Measures of hospital market concentration

However, since the "price sensitivity of shopping" (363) also plays a large role in the articles conceptual framework, I will regard this too as a possible determinant:

- "[P]rice sensitivity of shopping" (ibid.) (dichotomous variable for HMO penetration)

Dranove, Satterthwaite & Sfekas (2008b) – Boundedly rational bargaining in option demand markets: An empirical application

The article focuses on "levels of rationality" (2). Their model says prices that are under negotiation are dependent on how deeply the bargainers involved think through the issue. Therefore I will assume the rationality levels to be a possible determinant of the bargaining position:

- "[L]evels of rationality" (ibid.): "[i]n level 0 rationality managers in both the MCO and each hospital simply bargain over the marginal value the hospital adds to the proposed network. In level 1 rationality the MCO and hospital in their bargaining strategy account for the effects on this marginal value of a single breakdown of negotiation resulting in one hospital being excluded from the network. In level 2 rationality the MCO and each hospital account for the effects of two breakdowns causing the exclusion of two hospitals" (2-3).

Dranove, Shanley & White (1993) – Price and concentration in hospital markets: The switch from patient-driven to payer-driven competition

They "examine the relationship between prices and local market concentration" (180). I will interpret the prices to be a measure of bargaining power. Thus, the variable (and thus, my possible determinant) they mainly focus on is:

- Market concentration for hospitals (Herfindahl index)

Halbersma et al. (2011) – Market structure and hospital-insurer bargaining in the Netherlands

In this paper, they "study the impact of both hospital and insurer concentration and market shares on Dutch hospital prices in the competitive segment" (591). Interaction variables will be excluded as possible determinants and therefore the following variables will be regarded as possible determinants:

- "HHI hospitals" (600)
- "Centered market share hospital" (ibid.)
- "HHI insurers" (ibid.)
- "Centered market share insurer" (ibid.)

Heida [Gupta Strategists] (2008) – Onderhandelen met zorg: Achtergrondonderzoek naar het contracteren van zorg door verzekeraars en zorgaanbieders
(Achtergrondstudie uitgebracht door de RVZ bij het advies Zorginkoop)

Since the report focuses more on the process of contracting instead of determinants influencing the bargaining position, I have not selected any possible determinants from this report. However, this does not mean that no determinants are mentioned.

Ho (2009) – Insurer-provider networks in the medical care market

I will interpret the variables used in the "main specification" (417) as the variables Ho focuses on and therefore as the possible determinants of the bargaining position (with exception of the constant):

- "Star hospitals" (416) ("indicator for hospitals whose market share would be above the ninetieth percentile in the data under the thought experiment where all plans contract with all hospitas in the market holding prices fixed" (ibid.))
- "Hospital[s] in system[s]" (418)
- "[H]ospitals for which a same-system hospital has been excluded" (ibid.)
- Hospital's "[c]ost per admission" (ibid.)

Kemp & Severijnen (2010) – Price effects of Dutch hospital mergers: An ex post assessment of hip surgery

The focus of this study is to evaluate price effects of mergers. The x-variable of importance is:

- "[D]ummy variable that is equal to one if [the specific hospital] is one of the merging hospitals" (22).

I interpreted this variable to influence bargaining power, although the study itself is focused on price effects and not on bargaining power.

Kemp, Kersten & Severijnen (2012) – Price effects of Dutch hospital mergers: An ex-post assessment of hip surgery

The focus of this study is to evaluate price effects of mergers. I will not choose a variable that is the focus of the article but a coefficient:

- "[T]he DID parameter, reflecting the price effect separate for each merging hospital" (244)

I interpreted this parameter to influence bargaining power, although the study itself is focused on price effects and not on bargaining power.

Kralewski, Wingert, Feldman, Rah & Klassen (1992) – Factors related to the provision of hospital discounts for HMO inpatients

They do not use a bargaining model but a "resource dependence model" (135), in which a "hospital's choice of whether or not to contract with an HMO is expected . . . to be based on (1) the hospital's expectation that direct benefits will result from resource exchange with the HMO, (2) the degree to which the hospital needs additional resources, and (3) the hospital's tolerance for interdependence with external organizations" (136). However, I will interpret a strong resource position towards an HMO as a strong bargaining position. Therefore, all of the explanatory variables will be regarded here as possible determinants, since there does not seem to be a specific focus on certain variables in this article. The dummy variable for rural hospitals to assess the appropriateness of one of the authors' assumptions and the "interaction terms used to assess the accuracy of imputing HMO market conditions for hospitals adjacent to urban areas" (145), were excluded as possible determinants:

- "Contract specific" (140) variables: "[p]resence of risk-sharing provisions" (ibid.); "[p]resence of volume and/or revenue guarantees" (ibid.); "[h]ospital owns HMO" (ibid.); "[p]roportion of the hospital's admissions that were from that HMO" (ibid.)
- "Hospital specific" (ibid.) variables: "[h]ospital bed size" (ibid.); "[h]ospital occupancy rate" (ibid.); "[a]verage hospital expenses per day in U.S. dollars" (ibid.); "[d]ummy variable: 1 for public ownership, 0 for private ownership" (ibid.); "[d]ummy variable: 1 for for-profit ownership, 0 for public or private nonprofit" (ibid.); "[m]ember of a multihospital system" (ibid.); "[m]ember of the Council of Teaching Hospitals" (ibid.)
- "Market specific" (ibid.) variables: "[n]umber of hospitals located within a 5-mile radius" (ibid.) and "[n]umber of hospitals located within 15 miles but greater than 5 miles" (ibid.); "[n]umber of HMOs operating in each Metropolitan Statistical Area (MSA)" (ibid.); "[p]roportion of MSA population enrolled in HMOs" (ibid.) ("HMO [s]aturation" (ibid.))

Lewis & Pflum (2012) – Diagnosing hospital system bargaining power

Since the focus of the article is on "the effect of hospital system membership on a hospital's negotiated price with a managed care organization (MCO)" (1), I will regard this as the possible determinant the article focuses on:

- "[H]ospital system membership" (ibid.)

Melnick & Keeler (2007) – The effects of multi-hospital systems on hospital prices

They examine "the effect of hospital system status on prices" (404). "From a theoretical perspective, formation of hospitals into multi-hospital systems can lead to price increases as a result of improved quality and services by system members or as a result of greater bargaining power. [Their] data [did] not allow [them] to make a direct causal link to these competing alternatives." (409) However, membership can be interpreted as a *possible* determinant of bargaining power. I will interpret the following variables as the focus of the article and therefore as possible determinants:

- "[S]ystem status categories" (404) ("non-system member, member of a small system . . . , member of a large system" (ibid.)) and "whether one of their local competitors belonged to the same system or not" (405)

Melnick, Zwanziger, Bamezai & Pattison (1992) – The effects of market structure and bargaining position on hospital prices

The "Results" (225) section of the paper states that the "primary objective of the analysis is to measure the independent effect of hospital market structure and the relative strength of Blue Cross vis-à-vis each hospital on the price paid by Blue Cross in its PPO" (ibid.). "[H]ospital market structure" (ibid.) is measured by:

- HHI ("hospital specific" (ibid.) and "county-level" (ibid.)).

In the discussion of the article it was specified that the "[r]elative bargaining position was assessed in terms of both the importance of each hospital in the payor's network and the importance of the payor to each hospital's patient base" (229-230). Since these are measures of the relative bargaining position, they are not determinants or factors influencing the bargaining position. However, I will interpret them here as possible determinants:

- "[I]ndicator of the importance of the PPO to the hospital" (224) (= "percent of total patient days at each hospital accounted for by Blue Cross PPO patients" (ibid.))
- "[T]the importance of the hospital to the PPO network" (ibid.) (= "hospital's share of total Blue-Cross days in its market" (ibid.)) (interacted with HHI)
- "[H]ospital's share of total Blue Cross days in the county" (228)

I will interpret the above variables as the "relative strength of Blue Cross vis-à-vis each hospital" (225)

Moriya, Vogt & Gaynor (2010) – Hospital prices and market structure in the hospital and insurance industries

The focus is "the relationship between insurer and hospital market concentration and the prices of hospital services" (459). This influence of concentration on prices, can also be interpreted as the influence of concentration on the bargaining position. Therefore determinants are:

- "Insurer HHI" (470)
- "Hospital HHI" (ibid.)

Shen, Wu & Melnick (2010) – Trends in hospital cost and revenue, 1994-2005: How are they related to HMO penetration, concentration, and for-profit ownership?

The authors do not specifically research the bargaining relationship between hospitals and insurers, but they do study the effects of different variables on inter alia revenues. Since these variables could possibly influence the hospital revenues, I will regard these variables also as possibly influencing bargaining positions. The variables the article focuses on are:

- "HMO [p]enetration" (49)
- "HMO concentration" (42)
- "[F]or profit (…) HMO market share (ibid.)

Sorensen (2003) – Insurer-hospital bargaining: Negotiated discounts in post-deregulation Connecticut

"This paper empirically examines the outcomes of hospital-insurer negotiations using unique data from the state of Connecticut. In addition to providing an overview of discounting patterns, this study seeks to identify the importance of payer characteristics in explaining variation in discount magnitudes" (472). The two variables the article seems to mainly focus on are:

- "[P]ayer size" (ibid.)
- "[P]ayers' differential abilities to channel patients to selected providers" (ibid.) ("reflected in [the insurer's] responsiveness to discount differences across hospitals within the same market" (484))

Town & Vistnes (2001) – Hospital competition in HMO networks

The basic idea of this article is how consumers value the inclusion of a hospital in the insurer's network. Therefore I will use the variables of the article's equation 2 for "patient *i*'s indirect utility from being admitted to hospital *h*" (738) (interaction variables and error terms are excluded), which is the "hospital choice model" (746):

- "[M]easure of relative attractiveness of the hospital, which is assumed to be common across individuals" (738)
- "[D]istance (straight-line) from the individual's home to the hospital" (ibid.)
- "[D]ummy variable indicating if the hospital is a teaching institution" (ibid.)
- "[D]ummy variable indicating whether the admission occurred via the emergency room" (ibid.)
- "[D]ummy variable indicating whether the hospital is the closest one to the patient's home" (ibid.)
- Dummy variable for race x "[E]thnic composition of a hospital" (ibid.) (I make an exception here by including an interaction variable)

I could have also decided to take equation 1 (hospital's "bargaining leverage" (737)) as the equation to select variables from to be possible determinants of the bargaining position. Because of the fact that the calculation of this equation 1 required many more equations with many more variables, I stuck with equation 2.

Wu (2009) – Managed care's price bargaining with hospitals

Wu mentions "three key determinants for discounts" (351), which I will interpret as possible determinants of the bargaining position:

- "[P]lan size" (353): "annual inpatient days of an insurer in a hospital's market as the measure of plan size" (ibid.)
- "[D]emand elasticity, measured by patient channeling within a provider network" (351). The author calculates "three . . . exogenous measures of a plan's channeling ability" (354). The author "define[s] patient channeling as the deviation between patients' preferred choices (as

predicted by a model) and their actual choices, attributing the difference to a health plan's channeling efforts" (ibid.)

- "[E]xcess hospital capacity" (351): "defined as an occupancy rate of less than 50%" (354).

Zwanziger, Melnick & Bamezai (2000) – The effect of selective contracting on hospital costs and revenues

The objective of the study was to "examine the effects of selective contracting on California hospital costs and revenues over the 1983-1997 period" (849). No bargaining model was applied but since the article focuses on the period "after California passed selective contracting legislation" (851), which was in 1982, the following factor will be interpreted by me as a possible determinant of bargaining power:

- Whether selective contracting is allowed

APPENDIX C: INTERVIEW RESPONDENTS

Organization	Name	Function
Nederlandse Zorgautoriteit	R.S. Halbersma	Economic expert
	M.C. Mikkers	Director strategy and legal Affairs
Zorgverzekeraars Nederland	S.J. Terpstra	Senior policy advisor
	M.Y. Redel RA	Senior policy advisor
Universitair Medisch Centrum Groningen	M.R. Spit RC	Head of external financing, concern control & information management
	P. Weigand RA	Finances & Control
Leids Universitair Medisch Centrum	M.R.O de Kleer	Head of planning, analysis & control
Medisch Centrum Leeuwarden	R. Delleman	Concern controller ZorgPartners Friesland
Reinier de Graafgroep	R. de Rijke	Manager Financial policy & Control
Wilhelmina Ziekenhuis Assen	A.L. Lukkes	CFO
Diaconessenhuis Leiden	J. Last	Head economic administrative service
Achmea	M. Akkerman	Senior Manager Strategy and Policy Hospital Care Procurement
CZ	R. Pijnenburg	Manager sector Medical Specialist Care
Multizorg VRZ	J. Visser	Manager health purchasing secondary care / mental health care / durable medical equipment

APPENDIX D: DETERMINANTS FROM INTERVIEWS

Hospital- and/or insurer-specific determinants			General determinants		
Hospital characteristics	**Insurer characteristics**	**Other determinants**	**Hospital characteristics**	**Insurer characteristics**	**Other determinants**
Whether the hospital is a hospital providing "concentrated" health care within the context of "concentration of health care". In practice, this hospital provides more of this type of care but does not get more budget (budget is defined here as price multiplied with quantity). With "concentrated health care" not the highly complex health care covered by the WBMV is meant here	Whether an insurer invests in its image/reputation and subsequently communicates to its customers (e.g. transparency of data about quality). Thereby, creating trust between the insurer and the customer, which improves the ability of the insurer to navigate its customers	If hospitals and insurers start a conversation together about quality indicators (defining desirable behaviour together). E.g. developing care pathways for certain target groups	Hospitals have a direct relationship with the patient, as opposed to the insurer's relationship with its customers. The sentimental value to these relationships is different, although this is changing. The difference between acute and elective care also influences this hospital-patient relationship	Fact that the Minister has given the insurer a very big role in the issue of cost containment	Transition contains too many changes at the same time:1. Enlargement of the B-segment; 2. introduction of activity based funding (the system is brought back to the budgetary system, because the insurer will create ceilings to contain cost growth resulting from activity based funding); 3.change of DBCs into DOTs (leading to much complexity, insecurity and risk àspeculation about price and volumes). The 3 changes make both insurers and hospitals more insecure (leading to hospitals demanding higher prices and focusing on their turnover and how to keep this, and insurers negotiating about ceilings)
		Last year's negotiated price		Fact that insurer possesses a lot of data and figures (e.g. concerning length of stay, regional differences in treatments etc), sometimes leading to strange comparisons and interpretations	
Hospital's reputation concerning his portfolio (e.g. good reputation for groin ruptures)	Whether the insurer delays/postpones to come at the negotiating table	Long term relationship between the hospital and the insurer		Fact that the insurer has less medical knowledge than the hospital	
The position the hospital takes during negotiations: is it all about price or also about quality	Skills negotiator / quality people responsible for finances	Relationship between insurer and hospital	Fact that cooperation between hospitals is difficult because of (competition) rules and regulations, which makes concentration of certain care types also difficult		
Reputation of the hospital		History in the relationship between hospital and insurer		Insurer's ability to threaten to contract selectively	
Share of hospital's patients insured by a certain insurer (size of the specific insurer within a certain hospital)	The amount negotiators get paid				Termination of the ex post compensation payments for health insurers
	Quality of the bargaining/negotia-tion team of the insurer and whether it is a multi-disciplinary team	Agreements/con-tracts in previous years between the insurer and the hospital		Acceptance of the insurer's role increases among people	Fact that negotiations are much hardened over the years
Size of the share of hospital's turnover paid by a certain insurer		History relationship between hospital and insurer		Fact that the insurers have the instrument of threatening to selectively contract hospitals	Fact that in practice, the hospital-insurer bargaining leads to budgets (for A and B-segment together) per insurer, in the shape of price multiplied with quantity
Regional market share of the hospital (especially when the hospital has a regional function/role): amount of citizens in a certain area using the hospital	Quality of insurer's health care purchasers that negotiate with hospitals (e.g. experience, knowledge, background)	Waiting lists of other hospitals	Hospital care contains a lot of emotion		
		Relationship between insurer and hospital	Fact that hospitals have the strategy tool to given the bill to the patient or to recommend the patient to change to a different insurer	Fact that the insurer has had to profile itself in the past and the hospital still needs to do this	Complexity of the bargaining process, makes it easy/appealing to just carry out rules and regulations
Which types of specialists are present in the hospital, especially when the specialists are important in case of comorbidity or when they are important for other medical specialties within the hospital	Whether insurer's health care purchasers that negotiate with hospitals have a mandate to decide on things	Number of alternative hospitals in the market (e.g. a change in this may take place in case of mergers)		Insurers talk about quality, but in the end it is all about prices	Moving national problems to the local level (e.g. explanation of the General Agreement by ZN and NVZ differs)
Which insurer the hospital negotiates its shadow budget with (the same insurers as hospitals used to negotiate with for the A-segment in previous years)	Whether you like the negotiator you are dealing with	Personal relationship/con-nection between the actual negotiators of the two parties that are placed at the negotiating table (e.g. can you handle each other)	Fact that hospital supplies the data that all the negotiations are based on	Fact that insurers have to watch out not to harm their customers	Differences between hospitals and insurers in interpretation of national issues (specifically the General Agreement)
	Whether the insurer knows the hospital in front of him and knows what is important to the hospital. So good preparation of the bargaining process is very important.		Fact that hospitals are under a lot of time pressure (concerning the refusal of insurers to finance in advance leading to financial problems)	Fact that insurers follow the directions set by ZN	
whether the doctors in the hospital are paid based on salaries or are organized in independent partnerships				Insurers deal with increasing demand for care by focusing on the price	Transition model of the NZa can introduce risks to hospitals (this is especially the case for general hospitals, probably less for universitary hospitals) and that makes the negotiations for 2012 more difficult and worsens the bargaining position for 2013.
Share of hospital's patients insured by a certain insurer					
Share of the hospital's patients insured by a specific insurer (market share of the insurer within a	Whether insurer refuses to come the negotiating table and thus can dictate a contract	Available alternatives (market concentration) for a specific	Fact that the relationship between the patient and the	The fact that the insurer has a director's role in the market	Fact that a greater

specific hospital)	unilaterally	demand for care (e.g. acute, chronic, top clinical) within the region	hospital is stronger than between the insurer and its customer	Fact that insurers have the instrument to uses publicity to the disadvantage of hospitals	travelling distance is becoming more normal nowadays (weakens hospital-patient relationship)
Share of the hospital's patients insured by a certain insurer	In which region the insurer has many customers				
Quality of a hospital	Size insurer				
Hospital's quality according to both the insurer's own standards and measurements, and the standards of other (national) organizations	Whether the insurer's customers themselves want to go to a certain hospital	Whether contracts for multiple years are used (favorable to insurer and hospital). Contracts need to be very specific	Fact that hospitals have the instrument to use publicity to the disadvantage of insurers	Fact that the product of an insurer (=insurance) is a "weaker" product than the product of the hospital (=health care)	More diversity in belangen (interests) within the NVZ versus a lot less diversity within the ZN
Quality of the hospital (whether you meet the quality criteria)	Whether insurers have obtained information (e.g. by asking the customer or by evaluation of administrative databases)		Hospital deal with increasing demand for care by focusing on the care volume, because it is difficult to lower the price		Patients increasingly look at the reputation and expertise of a hospital (especially younger generations)
Quality of the hospital and transparency about this		Whether hospitals and insurers have long term contracts with each other		Insurers are better at using publicity to influence public opinion and mobilize customers than hospitals are	Patients' willingness to travel increases (especially in younger generations)
Hospital's quality indicators					Fact that hospital-insurer bargaining seems to be over. Negotiations are increasingly more about fixed frameworks (e.g. ceilings and global budgets) instead of price negotiations
Quality of the hospital					
Quality hospitals	Share of insurer's turnover within a certain hospital	Hospital market concentration (influencing insurer's ability to channel patients)	Risk of reputational damage for the hospital when not having a contract with a certain insurer	Fact that insurers in general focus on financial aspects in negotiations (cost-based negotiations)	
Hospital costs					
Costs of a hospital					
Hospital's market share	Share of insurer's customers within a certain hospital				Fact that negotiations *seem* to focus on quality but in the end are always about money
Market share hospital					
(Regional) market share of a hospital	Insurer's knowledge	Concentration regional hospital market			
Hospital's regional market share					Criteria concerning waiting times (Treeknormen)
Share of hospital's patients insured by a certain insurer (market share of a certain insurer within a certain hospital)	Share of the insurer's customers going to a certain hospital	Prices of other hospitals	Fact that the insurer has had to profile itself in the past and the hospital still needs to do this	Fact that insurers possess the money	Pressure from society because of the high demand for care
		Negotiating style of negotiators of both parties			
Regional market share hospital	Amount of quality data the insurer possesses	Whether the insurer and hospital have agreements for multiple years	Hospitals are not profit distributing organizations	Insurers own their stakes	Fact that budget shadow prices have been estimated too high in the past and that recalculation of these budget shadow prices has taken place in case of some insurers and some hospitals during the previous change in the B-segment. This makes some hospitals *seemingly* cheaper or more expensive than others, when you do not take this into account
The way negotiators get paid	Share of the insurer's customers going to a certain hospital				
Size hospital					
Market share of the hospital	Size of the share of the insurer's health care expenditure coming from a certain hospital	Product specific market concentration in the hospitals' market (e.g. for academic care)	Hospitals run the risk of reputational damage (especially when it is a large hospital). E.g. negative publicity towards the patient and the GP	Fact that insurer can delay/ postpone when to come at the negotiating table	
Size hospital					
Size hospital				Lack of knowledge and therefore they follow what policy rules and ZN say	
Size hospital					
The amount negotiators get paid	Information the insurer has from customer questionnaires	Whether there are independent treatment centers in the area a hospital is located in (and whether the hospital is connected to these independent treatment centers)		Fact that the insurer has the bargaining tool to tell the hospital only to finance in advance if there is a contract. This can lead to liquidity problems for the hospital	
Size hospital (when hospital is big then there is more money to pay for more people in supporting positions)			Fact that hospitals have to watch out not to harm their patients		
	Share of the insurer's customers going to a certain hospital				Fact that interests of insurers and hospitals differ considering DOTs and the shadow budget: insurers focus more on DOTs (since the shadow budget is not part of their health care expenditure and DOTs are), but to hospitals both DOTs and shadow budgets are important
Size of the hospital and turnover of the hospital in previous years	Having information and knowledge		The distrust of the hospital towards the insurer (they talk about quality but it is all about the price). Especially distrust from the specialists towards the insurer		
Skills negotiator / quality of people responsible for finances	(Regional) market share of an insurer (share of the patients within a hospital that is insured by a certain insurer)	Regional de-mand for cure (latent demand for cure) and whether this demand for cure tends to grow		Fact that insurer can refuse to come at the negotiating table and thus can dictate a contract unilaterally	Fact that because of the transition from DBCs to DOTs the estimation of the volume is difficult, since the conversion from DBCs to DOTs is difficult to calculate
Quality bargaining/ negotiation team of the hospital					
Whether you like the negotiator you are dealing with	Amount of financial data the insurer possesses		Fact that hospital has more medical knowledge than the insurer		
Specialization hospital				Insurer's tool/instrument to be able to contract selectively	The agreements that the hospital and insurer reach about the possible production growth, have to also fit within the nationally set fee ceilings. But this is difficult to estimate
Whether a hospital provides very specific care (profile of the hospital)	Insurer's contracts with other hospitals	Whether there is a personal connection between the negotiators of both parties	The information about quality and care profiles that is available to hospitals		
	Whether the insurer knows what is important to the other party (i.e. the hospital)			Fact that insurers run higher risks under the DOT	
Which insurer covers the employee insurance contracts (group contracts) of the specific hospital (especially relevant when hospital is large)	Professionalism of the insurer:	Investments in health centers in the area of a	Hospitals do not		Fact that ex post compensation payments for

	knowledge about care	hospital	own their stakes	negotiations the coming years than hospitals	insurers is cancelled, leading to an extreme focus of the insurers on the insurers' health care expenditure. However, the insurers' health care expenditure does not run parallel in time with the turnover of hospitals
Whether hospital acts aggressively	Whether the insurer offers its customers in kind contracts or reimbursement contracts	Behavior of the market leader, which is the largest insurer within a certain hospital (hospital focuses on this behavior)	Fact that specialists in independent partnerships now have a maximum fee ceiling	Fact that insurers have time on their side: they can use the time pressure as an instrument	Increase of the B-segment to 70% in 2012
Efficiency hospitals					General Agreement, the translation by the ZN of this General Agreement into a national "calculation form" and the changing interpretations of insurers (first the interpretation of the General Agreement itself and later the interpretation of the calculation form of ZN)
Care profile hospital (e.g. academic care)					
Whether a hospital is working on profiling itself (making choices and planning on what care profile to adopt in the future)	Whether it is a profit distributing organization	Behavior of the market leader (=insurer with the largest share of patients within a certain hospital)	Peaceful coexistence between hospitals: no actual agreements, but hospitals do not like to be in each other's way	Fact that insurers have the strategy tool to pressure the hospitals by delaying the bargaining process and threatening to not contract the hospital, and thus delaying the financing of the hospital	
	Wishes of the insurer				
Care profile and expertise of the hospital (what type of cure do you focus on)	Relationship insurer has with hospitals				Increase of the B-segment over the years
Hospital's profile	Amount of legal expertise the insurer possesses	Chemistry between the two bargaining parties	Hospitals are expensive and difficult to start yourself. Insurer cannot threaten to do this	Insurers run more risks than hospitals (in 2012)	Increase in health care consumerism
Experience in bargaining					Introduction of DOT-system instead of DBC-system
Share of hospital's turnover coming from a certain insurer (market share of a certain insurer within a certain hospital)	Knowledge about the medical product (present in the persons actually negotiating and present in the organization as a whole)	Whether the local government pressures hospitals to contract a certain insurer	Fact that hospital can steer patients when it wants to increase the size of the patient flow, but this ability to steer is much less when it wants to decrease the size of the patient flow	Additional requirements towards insurers: on the one hand, the Macro discount went from the hospitals to the insurers; on the other hand, solvency requirements from the DNB towards insurers increase	Since there are only a few insurers contracting with multiple hospitals, hospitals can indirectly negotiate price agreements with each other through the insurer. The insurer uses one hospital's proposal in its negotiations with other hospitals
Efficiency of a hospital		Market concentration of the insurers' market			
Efficiency hospital					
Hospital's efficiency	Knowledge about the financial (health care) system (present in the persons actually negotiating and present in the organization as a whole)	Concentration hospital market		Duty of Care complicates the matter of refusing health care (especially for health insurers, since health care providers only have a duty to help someone in an acute life threatening state of health)	Fact that it is no normal buyer-/seller relationship: you meet each other every year again in the bargaining process (makes the long term relationship important) and the fact that the patient eventually experiences the possible negative consequences (binds the hospital and insurer to each other)
Hospital's knowledge		Content A-segment contracts			
Where the hospital's located → market concentration					
The degree people locally feel connected to the hospital in their area					
Hospital's wishes/desires (e.g. concerning investments)	Contracts the insurer has with hospitals in the same area as the specific hospital bargaining with the insurer	Insurer market concentration		Image/reputation problem of insurers in general	Both insurers and hospitals do not benefit from the patient receiving the bill: insurer will lose customers and hospital will lose patients
Density of population in an area → travel distance		Prices of other hospitals			
Amount of financial data the hospital possesses	Experience in bargaining				Fact that negotiations between hospitals and insurers are hardening
Having information and knowledge	Size insurer			Insurer's ability to indirectly put pressure on the hospital by advising customers to go somewhere else	Minimum volume requirements by IGZ
Amount of quality data the hospital possesses	Insurer's regional market share				Fact that hospitals and insurers have to negotiate with each other every year again
Amount of legal expertise the hospital possess	Insurer's vision: are you capable of achieve larger movements. E.g. by involving hospitals			Insurers are vulnerable to negative media publicity	National system change (particularly relevant for 2012) and the General Agreement
Relationship of the hospital with GPs and whether the hospital invests in this	Insurer's ability to channel customers (e.g. health care mediation)				The fact the insurer can only have 1-year contracts with its customers
Knowledge of the hospital about the insurer (understanding the insurer and what is important to him, is important)	Whether the insurer sets additional volume requirements (e.g. in cooperation with professional associations) on top of the IGZ minimum volume requirements				
Reputation hospitals					
Contacts with universitary centers and partnerships with other hospitals					
Portfolio hospital (e.g.lung transplations; top clinical and top-referral care; IVF; joint care hip/knee surgeries)					
Knowledge about the medical product (present in	Whether the insurer focuses on money or aims to talk				

the persons actually negotiating and present in the organization as a whole)	about goals together with hospitals → whether it is about the long-term relationship
Whether the hospital wants to invest in new materials	Wishes/desires of insurer's customers
Knowledge about the financial (health care) system (present in the persons actually negotiating and present in the organization as a whole)	Size insurer
	Whether an insurer sets additional quality criteria on top of national criteria
Whether the hospital cooperates with other health care providers (also cooperation with hospitals in case of high-complex care)	Market share insurer
	Insurer's regional market share
	Market share of the insurer
Relationship between hospital and general practitioner	Insurer's alternatives
Wishes of the hospital (e.g. concerning renovations)	The amount of collective contracts the insurer has. This is an indicator of how the insurer is able to navigate its customers
Whether or not the hospital took part in the recalculation of the budget shadow prices during the previous change in the B-segment	
Relationship of hospital with national parties (e.g. NVZ)	The way health care purchasers get paid
Whether hospitals offer innovative care	Whether the insurer uses publicity to influence public opinion and mobilize customers
Patient safety in the hospital	
The way specialists get paid (salary or specialists in an independent partnership)	Whether the insurer sets its own additional quality standards and measurements next to the already existing ones
Share of hospital's turnover paid by a certain insurer	
Whether there are risk-bearing units within the hospital	
Wishes/desires of the hospital's patient board	Size of the insurer's share within hospital's production
Whether specialists in a hospital are paid by salary or are organized in an independent partnership (academic/general hospital)	Whether insurers set extra quality requirements on top of the usual minimum quality requirements for a hospital
Transparency of the hospital about health care (e.g. does the hospital want to share data with the insurer about quality, efficiency or accessibility)	What instruments the insurer uses (and is able to use) and to what extent he uses it: 1. the instrument to influence price through price negotiations; 2. the insurer can try to channel its volume/ customers (health care mediation and
Accessibility of the hospital (e.g. waiting times, capacity, and travel time for ambulances and patients)	
Whether the hospital experiences pressures from their internal organizations (e.g. specialists, patient board, employees) to contract a certain insurer	

National regulations: fact that insurers are allowed to cooperate more than hospitals are (especially in A-segment) and national regulations concerning the system transition
People's tendency to go to hospitals nearby and hospital market is rather concentrated
Last year's budget shadow price
No possibility to negotiate contracts for multiple years (exception: collective contracts)[1]
Exogeneous shocks, e.g. implementation of DOTs might increase the power of insurers by telling the hospital they will not pay until there is a contract
People's demand for freedom of choice
Activity based funding (increases the ability to contract selectively)
There often are not enough hospitals for an insurer to be able to transfer its customers when wanting to contract hospitals selectively
The insured wish to have freedom of choice
Size of A segment and B segment (= national policy)
Whether there are standard national quality requirements or volume requirements (from the government or professional associations)
Increasing demand for care
Fact that the insurer's customers are difficult to steer
Insurers' customers look at price of the health insurance and quality of the hospital. There is a big difference between the interests of a healthy person and a patient
National regulations (e.g. concerning the adoption of new technologies and innovations into the benefit package)
Big gap between what hospitals and what insurers are or are not allowed to do. E.g. cooperation: insurers are allowed to do more than hospitals.
The General Agreement

Hospital's investments in relationship with health insurer	selective contracting); 3. the insurer can try to influence the healthc are landscape and care process (decrease of emergency departments, financing integrated care leading to customers being treated in primary care)
Whether a hospital shows medical practice variation in comparison with other comparable hospitals	
Financial situation of the hospital	
Size of the B-segment of a specific hospital	
Rate of entrance and exit of employees of the hospital (usually low rate, therefore: much knowledge but not flexible)	
	Relationship between insurer and general practitioner
Whether hospital stimulates growth in the demand for care	Whether or not the insurer took part in the recalculation of the shadow budget prices durng the previous change in the B-segment
Share of hospital's patients insured by a certain insurer	
Strength of the relationship between the hospital and the patient	
	Whether the insurer has a regional role and responsibility
Whether the hospital has a cardiac center, whether the hospital has an expertise in the area of oncology, whether the hospital has an Emergency Department. These characteristics give a hospital a regional function/role.	Rate of entrance and exit of employees of the insurer (usually high rate, therefore: flexible but more difficult to develop a relationship with the hospital)
Whether there are independent treatment centers in the area of the hospital	
Whether the hospital has a regional role and responsibility	Degree to which insurers are able to get a conversation with the medical going
Whether the hospital is a university hospital (and thus has multiple income sources)	Whether insurer has a clear vision of its goals and a strategy
Whether the hospital uses publicity to influence public opinion and mobilize patients	Whether the insurer invests in educating customers about contracting selectively and whether the insurer is transparent about this topic to its customers (thereby creating trust and thus being able to steer its customers better)
General attitude of the hospital (e.g. arrogant medical professionals may lead to an overall arrogant attitude of the hospital)	
Whether a hospital has a overcapacity	
History of the hospital	
	Whether the insurer is focused on the regional level
	Where the insurer is physically located (e.g. nearby a certain hospital)
	Whether an insurer is very specfic in its contracts: the insurer determines beforehand what, how much, and of what quality he wants to purchase
	that limits the possible growth
	Fact that patients are increasingly prepared to travel more for health care

[1] This determinant is my interpretation of what the respondent(s) said, but seems to contradict what some other respondents said (e.g. the relevance of having multiple year contracts)

the care
Whether the insurer deviates from the directions set by ZN
How the insurer defines the regional hospital market
Insurer's investments in relationship with hospital

In the above general determinant section, many determinants are presented as so-called "facts". This does not mean that these are regarded as actual objective facts but, according to my interpretation, these determinants were viewed by the specific respondent mentioning it as a fact.

APPENDIX E: CLUSTERING OF LITERATURE & INTERVIEW DETERMINANTS

The color blue means the determinant clusters are from the interviews, yellow means from literature, and green from both literature and interviews. One is white, we added this one to based on logic to distinguish between selecting preferred providers without restricting freedom of choice and selective contracting with restricted or no reimbursement for use of non-contracted care.

The determinants from appendix B and D fall, if clustering was possible, under one of the above mentioned determinant clusters. The distribution of these determinants across the clusters is as follows:

- Characteristics hospital

Type of hospital	Hospital-patient relationship	Hospital-GP relationship	Hospital-other health care providers (not GP) relationship	Hospital-specialist staff relationship	Importance of the hospital to the specific region				Hospital's performance in the area of public interests				Competencies hospital's negotiation team
					Whether the hospital has a regional role and responsibility								
					Market share of the hospital in the region	**Characteristics of other hospitals in the region**	**Available capacity in the region**	**Hospital occupancy rate**	**Quality of the hospital**	**Financial situation of the hospital**	**Physical accessibility of the hospital**	**Waiting times of the hospital**	
Whether the hospital is an academic health center. "With only rare exceptions in the twelve sites, academic health centers now have leverage because their expertise at tertiary and quaternary care is mostly unrivaled by other area hospitals" (ibid.) (Berenson et al. 2012, 975)	Strength of the relationship between the hospital and the patient	Relationship of the hospital with GPs and whether the hospital invests in this	Whether the hospital cooperates with other health care providers (also cooperation with hospitals in case of high-complex care)	The way specialists get paid (salary / specialists in an independent partnership)	"Centered market share hospital" (Halbersma et al. 2011, 600)	Waiting lists of other hospitals	"Market occupancy rate" (Bamezai et al. 2003, 70)	"[E]xcess hospital capacity" (351): "defined as an occupancy rate of less than 50%" (Wu 2009, 354)	Quality of a hospital	Hospital costs	Whether hospital has "relative geographic isolation . . . because health plans now are reluctant to ask enrollees to travel far to seek routine or even specialized hospital care" (Berenson et al. 2012, 975)	Accessibility of the hospital (e.g. waiting times, capacity, and travel time for ambulances and patients) (this factor is mentioned twice in the clustering but once in the interviews)	The way negotiators get paid
	Whether the hospital uses publicity to influence public opinion and mobilize patients	Relationship between hospital and general practitioner	Contacts with universitary centers and partnerships with other hospitals	Whether specialists in a hospital are paid by salary or are organized in an independent partnership (academic/ general hospital)	Market share of the hospital	Prices of other hospitals	"[I]n areas where bed supply is tight, hospitals can be more demanding" (Berenson et al. 2012, 975)	"Hospital occupancy rate" (Bamezai et al. 2003, 70)	Hospital's quality according to both the insurer's own standards and measurements, and the standards of other (national) organizations	Costs of a hospital			The amount negotiators get paid
Whether the hospital is a university hospital (and thus has multiple income sources)	Dummy variable for race x "[E]thnic composition of a hospital" (ibid.) (Town & Vistnes 2001, 738)		Membership to a network and/or to a system: they "considered hospitals linked by systems but not networks as a single hospital (HHI-S)" ((Burgess Jr. et al. 2005, 395)); they "created a	Whether the doctors in the hospital are paid based on salaries or are organized in an independent partnership	Hospital's market share	Prices of other hospitals	"[D]windling hospital bed and physician	"[h]ospital occupancy rate" (Kralewski et al. 1992, 140)	Quality of the hospital (whether you meet the quality criteria)	Hospital's "[c]ost per admission" (Ho 2009, 418)	"[T]ravel time" (Capps et al. 2003, 752)		Skills negotiator / quality of people responsible for finances
"[m]ember of a multihospital system" (Kralewski et al. 1992, 140)					(Regional) market share of a hospital	Insurer's contracts with other hospitals			Quality of the hospital and transparency	"[a]verage hospital expenses per day in U.S. dollars" (Kralewski et al. 1992, 140)			Quality bargaining/ negotiation team of the hospital
"teaching status" (Dor et al. 2004b, 162)					Hospital's regional market share					Efficiency of a hospital			Amount of financial data the hospital possesses
					Regional market share of the hospital (especially when the hospital has a regional function/role): amount of citizens in a certain area using the hospital	Contracts the insurer has with hospitals in the same area as the specific hospital bargaining with the insurer		Whether a hospital		Efficiency hospital			Amount of quality data the hospital possesses
										Hospital's efficiency	Density of population		Amount of legal expertise the hospital

"teaching status" (Capps et al., 2003, 752)	Wishes/desires of the hospital's patient board	measure where only hospitals linked by networks were considered to be a single hospital (HHI-N)" (ibid.); and they had a "measure to consider hospitals linked by networks or systems as a single hospital (HHI-SN)" (ibid.); and "Sys/Net" (397) (indicator variable for "those [hospitals] that simultaneously were members of both a network and a system and were networked with at least one other hospital in that same system" (ibid.))		Regional market share hospital		workforce capacity that evolved in many parts of the state" (Berenson et al. 2010, 701)	has a over-capacity	about this Hospital's quality indicators	Financial situation of the hospital	in an area → travel distance	possess Hospital's knowledge
"[D]ummy variable indicating if the hospital is a teaching institution" (Town & Vistnes 2001, 738)	The degree people locally feel connected to the hospital in their area	Whether there are independent treatment centers in the area a hospital is located in (and whether		Market share hospital		Regional demand for cure (latent demand for cure) and whether this demand for cure tends to grow		Patient safety in the hospital	Efficiency hospitals	"[D]istance (straight-line) from the individual's home to the hospital" (Town & Vistnes, 2001, 738)	Having information and knowledge
" "[M]ust-have" providers – especially hospitals – that must be included in a plan's provider network to make the plan acceptable to customers" (Berenson et al. 2010, 702). " "[Mu]st-have" providers' strong negotiating position is not necessarily derived from size but rather by factors not typically part of antitrust analysis" (ibid.): "reputation" (ibid.); "providing unique, specialized services, which the hospital then uses to demand and win higher rates for all services" (ibid.). Also: "[p]rovider				Whether there are independent treatment centers in the area of the hospital		"[c]apacity constraints located in key geographic sub-market" (Devers et al. 2003, 432)		Quality of the hospital	Whether a hospital shows medical practice variation in comparison with other comparable hospitals	Accessibility of the hospital (e.g. waiting times, capacity, and travel time for ambulances and patients) (this factor is mentioned twice in the clustering but once in the interviews)	Knowledge of the hospital about the insurer (understanding the insurer and what is important to him, is important)
				"HHI hospitals" (Halbersma et al. 2011, 600)		"Community hospital beds per 1,000 Blue Cross plan area popula-		Whether hospitals offer innovative care	Whether hospital stimulates growth in the demand for care		Knowledge about the medical product (present in the persons actually negotiating and present in the organization as a whole)
				Market concentration for hospitals (Herfindahl index) (Dranove, Shanley & White 1993)				Quality hospitals	Whether the hospital is a hospital providing "concentrated" health care within the context of "concentration of health care". In practice, this hospital provides more of this type of care but does not		knowledge about the financial (health care) system (present in the persons actually negotiating and present in the organization as a whole)
				"[c]ardiac Herfindahl index" (Dor et al. 2004a, 355)				"[C]ase mix" (Dor et al. 2004b, 162): "summary measure for the overall severity of patients in the hospital admitted for this procedure" (ibid.) ("The measure of the hospital's case mix or severity (for angioplasty patients) will be based on its *expected mortality rate* [and] [i]n an alternative			
				"Hospital HHI" (Moriya et al. 2010, 470)							
				"[n]umber of hospitals located within a 5-mile radius" (Kralewski et al. 1992, 140) and "[n]umber of hospitals located within 15 miles but greater than 5 miles" (ibid.)							
				Herfindahl index for hospital markets (Dor et al., 2004b)							
				"[c]onsolidation" (Devers et al. 2003, 432)							

consolidation has expanded the proportion of hospitals with "must-have" status" (ibid.)	the hospital is connected to these independent treatment centers) (mentioned twice in the clustering but is mentioned once in the interviews)	HHI ("hospital specific" (ibid.) and "county-level" (Melnick et al. 1992, 225)	tion" (Ada-mache & Sloan 1983, 232)	specificatio n, [they] include the *standardize d mortality rate*, . . . which is taken as an adverse measure of the hospital's clinical performan-ce" (162-163)	get more budget (budget is defined here as price multiplied with quantity). With "concentra-ted health care" not the highly complex health care covered by the WBMV is meant here	Whether hospital acts ag-gressively
Whether a hospital has "particular attributes – for example, a unique service, such as organ transplantation" (Berenson et al 2012, 974-975) Whether a hospital has "a level 1 trauma center or similar highly specialized service that [is] provided to the whole community" (975) Whether a hospital provides "an important, unique service" (ibid.) Whether a hospital provides "specialized services otherwise unavailable or limited in the market, including a children's hospital or a neonatal intensive care unit, a designated level 1 trauma center, or a designated organ transplant or burn center" (ibid.)		Measures of hospital market concentration (Dranove et al., 2008a)				The position the hospital takes during negotia-tions: is it all about price or also about quality
		Hospital competition (patient-origin HHI) (Bamezai et al, 2003)				
		"[a]ppendectomy-specific Herfindahl index in the year the Marketscan episode occurred" (Brooks, Dor & Wong 1997, 426)			"[f]inancial pressure" (Devers et al. 2003, 432)	Experience in bargaining
		"[n]umber of hospitals performing appendectomies in the county in the year the Marketscan episode occurred" (Brooks et al. 1997, 426)				Transpa-rency of the hospital about health care (e.g. does the hospital want to share data with the insurer about quality, efficiency or acces-sibility)
		"[h]ospital bed size" (Kralewski et al. 1992, 140)				Rate of entrance and exit of employees of the hospital (usually low rate, therefore:
		"[h]ospital bed capacity" (Brooks, Dor & Wong 1997, 427)				
		Size hospital				

		Concentration regional hospital market		much knowledge but not flexible) (this factor is mentioned twice in th clustering table but once in the interviews)
Portfolio hospital (e.g.lung transplations; top clinical and topreferente care; IVF; joint care hip/knee surgeries)		Size of the hospital and turnover of the hospital in previous years		
		Concentration hospital market		
		Size hospital		
		Size hospital		
“a dummy for transplant services (indicating a “high-tech” hospital)” (Capps et al. 2003, 752)		Size hospital (when hospital is big then there is more money to pay for more people in supporting positions)		Negotiating style of negotiators of both parties (this factor is mentioned twice in the clustering but once in the interviews)
Care profile and expertise of the hospital (what type of cure do you focus on)		Size hospital		
Specialization hospital		Size of the hospital or hospital system (Berenson et al., 2012)		
“[H]ospital service offerings” (Capps et al. 2003, 752)		Investments in health centers in the area of a hospital		
Care profile hospital (e.g. academic care)		“[U]nique characteristics of hospital markets” (Berenson et al. 2012, 975) (e.g. four competing hospitals with different services) (ibid.)		
Whether a hospital is working on profiling itself (making choices and planning on what care profile to adopt in the future)		“Star hospitals” (Ho 2009, 416) (“indicator for		

Which types of specialists are present in the hospital, especially when the specialists are important in case of comorbidity or when they are important for other medical specialties within the hospital			hospitals whose market share would be above the ninetieth percentile in the data under the thought experiment where all plans contract with all hospitas in the market holding prices fixed" (ibid.))
Whether a hospital provides very specific care (profile of the hospital)			Where the hospital's located → market concentration
Hospital's profile			Whether there are independent treatment centers in the area a hospital is located in (and whether the hospital is connected to these independent treatment centers) (mentioned twice in the clustering but is mentioned once in the interviews)
Whether the hospital has a cardiac center, whether the hospital has an expertise in the area of oncology, whether the hospital has an Emergency Department. These characteristics give a hospital a regional function/role			Hospital market concentration (influencing insurer's ability to channel patients) (this factor is mentioned twice in the clustering but is mentioned once in the interviews)
hospital teaching status ("[m]ajor teaching" (Dor et al. 2004a, 355); "[m]inor teaching" (ibid.))			

	Product specific market concentration in the hospitals' market (e.g. for academic care)
	Number of alternative hospitals in the market (e.g. a change in this may take place in case of mergers)
	Available alternatives (market concentration) for a specific demand for care (e.g. acute, chronic, top clinical) within the region

- Characteristics insurer:

Competencies insurer's negotiation team	Market share of the insurer in a specific region	Insurer's ability to channel its customers preferred providers	Insurer-customer relation-ship	Insurer-GP relation-ship
Whether a health plan has an aggressive attitude in negotiations. I have interpreted the following examples and quotes as underlying reasons: - A respondent mentioned that in the case of two big players (a must-have hospital and Blue Cross Blue Shield), the players " 'have to come to terms' " (Berenson et al. 2012, 977) - "[T]o a large extent, health plans have	"Centered market share insurer" (Halbersma et al. 2011, 600)	"[P]ayers' differential abilities to channel patients to selected providers" (Sorenson 2003, 472) ("reflected in [the insurer's] responsiveness to discount differences across hospitals within the same market" (484))	Whether the insurer uses publicity to influence public opinion and mobilize customers (this factor is mentioned twice in the	Relationship between insurer and general practitioner
	Insurer's regional market share			
	Market share insurer	"[D]emand elasticity, measured by patient channeling within a provider network" (Wu 2009, 351). The author calculates "three . . . exogenous measures of a plan's channeling ability" (354). The author "define[s] patient channeling as the deviation between patients' preferred choices (as predicted by a model) and their actual choices, attributing the difference to a health plan's channeling efforts" (ibid.)		
	In which region the insurer has many customers			
	Insurer's regional market share			
	Market share of the insurer	Hospital market concentration (influencing insurer's ability to channel patients) (this factor is mentioned twice in the clustering but is mentioned once in the interviews)		
	"estimate of the proportion of			

accepted the reality of provider leverage and its effects on employer health care costs" (ibid.) - An interviewee observed that " '[t]here is a dynamic in the market that makes it impossible for a private payer to change anything' " (ibid.). The interviewee mentioned a specific incident that insurers " 'never recovered from' " (ibid.) and that " 'showed that employers would not support plans in show-downs against hospital systems' " (ibid.). - According to a provider, " 'Anthem is in a position to "dictate prices" but it doesn't because "it just needs to do better than the competition" ' " (977-978). - According to an interviewee " 'Blue Cross Blue Shield has [a] deep and abiding truce with hospitals' " (978) - "A Blue Cross Blue Shield executive noted, 'It makes our job even harder because we have such a big impact [on] them financially because of that [large] footprint. If we had 5 percent of the market, I think our negotiations would be easier' " (ibid.). - "Respondents suggested that, because they effectively lack competition, dominant Blue Cross Blue Shield plans can accommodate substantial price increases and pass them on in the form of higher premiums" (ibid.)	discharges in the county attributable to the firm" (Brooks et al. 1997, 427)	**Influencing public opinion and its customers' opinion about channeling customers to preferred providers**	**Selective contracting combined with restricted or no reimburse-ment for use of non-contracted care**	**Using group contracts, by which the health insurer can channel bigger groups of customers**	**Influencing choice by active health care mediation**	**Selecting preferred providers while not restricting the customer's freedom of choice**	clustering but is mentioned once in the interviews)
	"HHI insurers" (Halbersma et al. 2011, 600)	Whether the insurer uses publicity to influence public opinion and mobilize customers (this factor is mentioned twice in the clustering but once in the interviews)	Whether the insurer invests in educating customers about contracting selectively and whether the insurer is transparent about this topic to its customers (thereby creating trust and thus being able to steer its customers better) (this factor is mentioned three times in the clustering but is mentioned once in the interviews)	The amount of collective contracts the insurer has. This is an indicator of how the insurer is able to navigate its customers	Insurer's ability to channel customers (e.g. health care mediation)		Whether the insurer invests in educating customers about contracting selectively and whether the insurer is transparent about this topic to its customers (thereby creating trust and thus being able to steer its customers better) (this factor is mentioned three times in the clustering but is mentioned once in the interviews)
	Size insurer				What instruments the insurer uses (and is able to use) and to what extent he uses it: 1. the instrument to influence price through price negotiations; 2. the insurer can try to channel its volume/ customers (health care mediationd and selective contracting); 3. the insurer can try to influence the health care landscape and care process (decrease of emergency departments, financing integrated care leading to		Wishes/de-sires of insurer's customers
	Size insurer						Whether an insurer invests in its image/ reputation and sub-sequently commu-nicates to its customers (e.g. trans-
	Size insurer						
	"[P]lan size" (Wu 2009, 353): "annual inpatient days of an insurer in a hospital's market as the measure of plan size" (ibid.)						
	"[P]ayer size" (Sorenson 2003, 472)						
	"[a]n estimate of the total inpatient discharges that the respective firm had in the county and year of the Marketscan episode" (Brooks et al. 1997, 472)						
	Insurer market concentration						
	Market concentration of the insurers' market						
	"HMO concentration" (Shen et al. 2010, 42)						
	"[p]lan consolidation" (Devers et al. 2003, 432) ("However, the decline in the number of HMOs was generally not accompanied by an increase in consolidation as measured by the [..] [HHI]" (434))						
The way health care purchasers get paid	"Insurer HHI" (Moriya et al. 2010, 470)						
Skills negotiator / quality people responsible for finances	Insurer market concentration: "HMO-HHI" (Bates & Santerre 2008, 7) and "PPO-HHI" (ibid.)						
The amount negotiators get paid							
Quality of the bargaining/negotiation team of the insurer and whether it is a multidisciplinary team	"[n]umber of HMOs operating in each Metropolitan Statistical Area (MSA)" (Kralewski et al. 1992, 140)						
Experience in bargaining							
Degree to which insurers are able to get a conversation with the medical going (this factor is mentioned twice in this appendix but once in the interviews)							
Negotiating style of negotiators of both parties (this factor is mentioned twice in this appendix but once in the interviews)							

Whether insurers have obtained information (e.g. by asking the customer or by evaluation of administrative databases)	but is mentioned once in the interviews)	volume/ customers (health care mediation and selective contracting); 3. the insurer can try to influence the health care landscape and care process (decrease of emergency departments, financing integrated care leading to customers being treated in primary care) (this factor is mentioned twice in the clustering but once in the interviews)	customers being treated in primary care) (this factor is mentioned twice in the clustering but once in the interviews)	parency of data about quality). Thereby, creating trust between the insurer and the customer, which improves the ability of the insurer to navigate its customers
Knowledge about the financial (health care) system (present in the persons actually negotiating and present in the organization as a whole)				
Rate of entrance and exit of employees of the insurer (usually high rate, therefore: flexible but more difficult to develop a relationship with the hospital) (this factor is mentioned twice in the clustering but once in the interviews)				
Knowledge about the medical product (present in the persons actually negotiating and present in the organization as a whole)				
Quality of insurer's health care purchasers that negotiate with hospitals (e.g. experience, knowledge, background)				
Information the insurer has from customer questionnaires				
Whether insurer's health care purchasers that negotiate with hospitals have a mandate to decide on things				
Whether the insurer knows the hospital in front of him and knows what is important to the hospital. So good preparation of the bargaining process is very important.				
Whether the insurer knows what is important to the other party (i.e. the hospital)				
Professionalism of the insurer: knowledge about care				
Having information and knowledge				
Insurer's knowledge				
Amount of legal expertise the insurer possesses				
Amount of quality data the insurer possesses				
amount of financial data the insurer possesses				
		Whether the insurer offers its customers in kind contracts or reimbursement contracts		
		"[l]ess restrictive HMO products" (Devers et al. 2003, 432) ("[l]ess selective contracting" (ibid.), "[l]ess risk-contracting" (ibid.), and "[l]ooser UM practices"(ibid.))		

- Couple-specific characteristics

Hospital-insurer relationship	Importance of a hospital to the insurer he is negotiating with	Importance of an insurer to the hospital he is negotiating with
Which insurer the hospital negotiates its shadow budget with (the same insurers as hospitals used to negotiate with for the A-segment in previous years)	Which insurer covers the employee insurance contracts (group contracts) of the specific hospital (especially relevant when hospital is large) (twice in the clustering, but mentioned once in the interviews)	Share of hospital's patients insured by a certain insurer
		Share of hospital's turnover paid by a certain insurer
Hospital's investments in relationship with health insurer	"[T]the importance of the hospital to the PPO network" (Melnick et al. 1992, 224) (= "hospital's share of total Blue-Cross days in its market" (ibid.)) (interacted with HHI)	Share of hospital's patients insured by a certain insurer (market share of a certain insurer within a certain hospital)
Relationship insurer has with hospitals		
Insurer's investments in relationship with hospital		Share of hospital's patients insured by a certain insurer
Relationship between insurer and hospital	"Medi-Cal's dependence on a specific hospital" (Bamezai et al. 2003, 70) ("hospital's share of total Medi-Cal days in its market" (ibid.))	Share of hospital's patients insured by a certain insurer (size of the specific insurer within a certain hospital)
Long term relationship between the hospital and the insurer		
History in the relationship between hospital and insurer	Share of insurer's turnover within a certain hospital	Share of hospital's turnover coming from a certain insurer (market share of a certain insurer within a certain hospital)
Whether there is a personal connection between the negotiators of both parties	"[H]ospital's share of total Blue Cross days in the county" (Melnick et al. 1992, 228)	
Whether the insurer focuses on money or aims to talk about goals together with hospitals --> whether it is about the long-term relationship	"[H]ow much of an insurer's patient volume [the hospital or hospital system] generates" (Berenson et al. 2012, 976)	"[p]roportion of the hospital's admissions that were from that HMO" (Kralewski et al. 1992, 140)
Agreements/contracts in previous years between the insurer and the hospital	Wishes of the insurer	Size of the share of hospital's turnover paid by a certain insurer
	Share of insurer's customers within a certain hospital	
Relationship between insurer and hospital	Share of the insurer's customers going to a certain hospital	Share of the hospital's patients insured by a specific insurer (market share of the insurer within a specific hospital)
History relationship between hospital and insurer	Size of the share of the insurer's health care expenditure coming from a certain hospital	
Chemistry between the two bargaining parties	Share of the insurer's customers going to a certain hospital	Share of the hospital's patients insured by a certain insurer
Whether you like the negotiator you are dealing with	Share of the insurer's customers going to a certain hospital	
Rate of entrance and exit of employees of the hospital (usually low rate, therefore: much knowledge but not flexible) (this factor is mentioned twice in the clustering but once in the interviews)	Whether the insurer's customers themselves want to go to a certain hospital	Which insurer covers the employee insurance contracts (group contracts) of the specific hospital (especially relevant when hospital is large) (twice in the clustering, but mentioned once in the interviews)
	Insurer's alternatives	
Personal relationship/connection between the actual negotiators of the two parties that are placed at the negotiating table (e.g. can you handle each other)	" "[M]ust-have" providers – especially hospitals – that must be included in a plan's provider network to make the plan acceptable to customers" (Berenson et al. 2010, 702). " "[Mu]st-have" providers' strong negotiating position is not necessarily derived from size but rather by factors not typically part of antitrust analysis" (ibid.): "reputation" (ibid.); "providing unique, specialized services, which the hospital then uses to demand and win higher rates for all services" (ibid.). Also: "[p]rovider consolidation has expanded the proportion of hospitals with "must-have" status" (ibid.)	Whether the local government pressures hospitals to contract a certain insurer
Rate of entrance and exit of employees of the insurer (usually high rate, therefore: flexible but more difficult to develop a relationship with the hospital) (this factor is mentioned twice in the clustering but once in the interviews)		Wishes of the hospital (e.g. concerning renovations)
		Hospital's wishes/desires (e.g. concerning investments)
Degree to which insurers are able to get a conversation with the medical going (this factor is mentioned twice in the clustering but once in the interviews)		Whether the hospital wants to invest in new materials
		[I]ndicator of the importance of the PPO to the hospital" (Melnick et al. 1992, 224) (= "percent of total patient days at each hospital accounted for by Blue Cross PPO patients" (ibid.))
If hospitals and insurers start a conversation together about quality indicators (defining desirable behaviour together). E.g. developing zorgpaden for certain target groups		"Hospital's dependence upon Medi-Cal" (Bamezai et al.

2003, 70) (“share of a hospital’s total inpatient days accounted for by Medi-Cal” (ibid.))
(regional) market share of an insurer (share of the patients within a hospital that is insured by a certain insurer)
Size of the insurer’s share within hospital’s production
Behavior of the market leader (=insurer with the largest share of patients within a certain hospital)
Behavior of the market leader, which is the largest insurer within a certain hospital (hospital focuses on this behavior)

- Determinants unable to cluster:

Determinants/variables which I was not able to cluster
“[M]edical groups in particular are concerned about the demise of capitation and the replacement of HMO products with PPOs, blunting their desire to drive as hard a bargain as they could” (Berenson et al. 2010, 704)
“[P]resence of Kaiser Permanente” (Berenson et al., 2010, 704)
MSA-level HMO penetration rate in the year the Marketscan episode occurred” (Brooks, Dor & Wong 1997, 426)
“HMO penetration at MSA level” (Dor et al. 2004b, 162)
“Blue Cross plan sells medical/surgical coverage” (Adamache & Sloan 1983, 232)
“Charges to Blue Cross patients covered by state-mandated hospital rate-setting program” (Adamache & Sloan 1983, 232)
“Proportion of Blue Cross plan area population in SMSAs” (Adamache & Sloan 1983, 232)
“Charges to commercially-insured patients covered by state-mandated hospital rate-setting program” (Adamache & Sloan 1983, 232)
“Proportion of hospital inpatient days in Blue Cross plan area covered by Medicare and Medicaid” (Adamache & Sloan 1983, 232)
“Blue Cross area population under age 65 (millions)” (Adamache & Sloan 1983, 232)
“Commercial ‘loading’ per protected person” (Adamache & Sloan 1983, 232)
“[P]rice sensitivity of shopping” (ibid.) (dichotomous variable for HMO penetration) (Dranove et al. 2008a, 363)
“HMO [p]enetration” (Shen et al. 2010, 49)
“Local Blue Shield plan sells hospital coverage” (Adamache & Sloan 1983, 232)
How the insurer defines the regional hospital market
Whether an insurer is very specfic in its contracts: the insurer determines beforehand what, how much, and of what quality he wants to purchase the care
“[p]roportion of MSA population enrolled in HMOs” (Kralewksi et al. 1992, 140)
“[H]ospitals for which a same-system hospital has been excluded” (Ho 2009, 418)
Dummies for different states (Brooks, Dor & Wong, 1997)
“[n]umber of years beyond 1987 in which the Marketscan episode occurred” (Brooks, Dor & Wong 1997, 426)
“Blue Cross premiums require approval by state insurance commissioner” (Adamache & Sloan 1983, 232)
“Premium tax rate on ‘foreign’ commercial insurers (percent)” (Adamache & Sloan 1983, 232)
Whether the insurer deviates from the directions set by ZN
“[f]irm is in a manufacturing-oriented SIC code (1, 2 or 3)” (Brooks, Dor & Wong 1997, 427)
Whether the insurer delays/postpones to come at the negotiating table
“[f]lat or declining enrolment in Medicare and Medicaid managed care programs” (Devers et al. 2003, 432)
“[P]atient heterogeneity” (Dor et al. 2004a, 353)
“HMO penetration rate calculated over MSA’s” (Dor et al. 2004a, 354)
“percentage of employees in the county in large firms of 100 employees or more” (Dor et al. 2004a, 354)
“[P]roduct heterogeneity” (Dor et al. 2004b, 162): “variations in the way angioplasty is done, which are observed at the patient level” (ibid.)
“[m]ember of a multihospital system” (Kralewski et al. 1992, 140)
Whether insurer refuses to come the negotiating table and thus can dictate a contract unilaterally
History of the hospital
“[l]ess HMO growth than anticipated” (Devers et al. 2003, 432)
“Joint Blue Cross/Blue Shield plan financial data combined” (Adamache & Sloan 1983, 232)
“Plan processes any Medicare Part B claims” (Adamache & Sloan 1983, 232)
General attitude of the hospital (e.g. arrogant medical professionals may lead to an overall arrogant attitude of the hospital)
Whether insurer has a clear vision of its goals and a strategy
Insurer’s vision: are you capable of achieve larger movements. E.g. by involving hospitals.
Whether the insurer is focused on the regional level
“Premium tax rate on Blue Cross (percent)” (Adamache & Sloan 1983, 232)
“Proportion of state non-agricultural work force unionized” (Adamache & Sloan 1983, 232)
“[D]ummy variable indicating whether the admission occurred via the emergency room” (Town & Vistnes 2001, 738)

“[D]ummy variable indicating whether the hospital is the closest one to the patient’s home” (Town & Vistnes 2001, 738)
“[D]iagnosis dummies” (Capps et al. 2003, 752)
“[P]atient characteristics” (Capps et al. 2003, 752)
“[P]atient-specific clinical and demographic variables” (Capps et al. 2003, 752)
measure of “equipment intensity” (Capps et al. 2003, 752)
measure of “nursing intensity” (Capps et al. 2003, 752)
“Mean wage of service workers in local labor market” (Adamche & Sloan 1983, 232)
Whether hospitals and insurers have long term contracts with each other
Size of the B-segment of a specific hospital
“[L]evels of rationality” (Dranove et al. 2008b, 2): “[i]n level 0 rationality managers in both the MCO and each hospital simply bargain over the marginal value the hospital adds to the proposed network. In level 1 rationality the MCO and hospital in their bargaining strategy account for the effects on this marginal value of a single breakdown of negotiation resulting in one hospital being excluded from the network. In level 2 rationality the MCO and each hospital account for the effects of two breakdowns causing the exclusion of two hospitals” (2-3)
Whether the hospital is vertically integrated with physicians (Ciliberto & Dranove 2006)
“Physician-hospital alliances” (Burns et al. 2000, 103)
Whether a hospital has “a large employed physician contingent” (Berenson et al. 2012, 977)
“[p]hysician integration” (Devers et al. 2003, 432)
“Joint hospital and physician-group negotiation” (Berenson et al. 2010, 702)
“[D]ummy variable that is equal to one if [the specific hospital] is one of the merging hospitals” (Kemp & Severijnen 2010, 22)
“[T]he DID parameter, reflecting the price effect separate for each merging hospital” (Kemp et al. 2012, 244)
Whether there are risk-bearing units within the hospital
Whether or not the hospital took part in the recalculation of the budget shadow prices during the previous change in the B-segment
“Some providers may balance their desire for high prices with the fragility of employer-sponsored insurance in their communities” (Berenson et al. 2010, 704)
Whether the hospital experiences pressures from their internal organizations (e.g. specialists, clientenraad, employees) to contract a certain insurer
“[h]ospital owns HMO” (Kralewski et al. 1992, 140)
ownership hospital (public, voluntary, for-profit) (Brooks, Dor & Wong 1997)
“[d]ummy variable: 1 for public ownership, 0 for private ownership” (Kralewski et al.1992, 140)
“[d]ummy variable: 1 for for-profit ownership, 0 for public or private nonprofit” (Kralewski et al. 1992, 140)
Hospital for-profit status (Dor et al., 2004a)
“ownership” (Dor et al., 2004b)
Whether or not the insurer took part in the recalculation of the budget shadow prices during the previous change in the B-segment
“Multispecialty and single-specialty medical groups” (Berenson et al. 2010, 703): “[t]he large multispecialty group practices and IPAs that survived the shake-out of the 1990s can now exercise substantial market power. They do so by virtue of the lack of price competition for their services, facilitated by the market requirement for plans to have broad networks” (ibid.). “[Multispecialty groups and IPAs] now . . . wield their considerable market clout to negotiate favorable payment rates and other contractual terms with HMOs” (ibid.). “California physicians also are forming single-specialty groups to gain additional advantages when negotiating for PPO contracts” (704)
“[p]resence of risk-sharing provisions” (Kralewski et al. 1992, 140)
“[p]resence of volume and/or revenue guarantees” (Kralewski et al. 1992, 140)
Where the insurer is physically located (e.g. nearby a certain hospital)
Whether health plans attempt to maintain “alternatives to powerful hospital systems” (Berenson et al. 2012, 975) (e.g. by keeping hospitals that are possible alternatives “reasonably strong” (ibid.))
Content A-segment contracts
“[S]ome providers specifically attempt to provide the same rates to all insurers out of concern that obtaining higher rates from smaller insurers would drive them from the market and further contribute to market dominance by a few plans” (Berenson et al. 2010, 704)
“ownership type” (Capps et al. 2003, 752)
whether hospital is part of a multi-hospital system (Brooks, Dor & Wong, 1997)
“[S]ystem status categories” (Melnick & Keeler 2007, 404) (“non-system member, member of a small system . . . , member of a large system” (ibid.)) and “whether one of their local competitors belonged to the same system or not” (405)
“Hospital[s] in system[s]” (Ho 2009, 418)
Whether the hospital is part of a multi-hospital system (“many multihospital systems extend over broad geographic areas and have escaped antitrust scrutiny” (Berenson et al. 2012, 976))
“Horizontal hospital integration” (Berenson et al. 2010, 702) sometimes resulting in hospital systems “adopting an “all or none” negotiating strategy, which means that a single contract defines the terms” (ibid.)
“[H]ospital system membership” (Lewis & Pflum 2011, 1)
Relationship of hospital with national parties (e.g. NVZ)
Ownership firm (“foreign-owned” (Brooks, Dor & Wong 1997, 427), “[g]overnment-owned” (ibid.), “privately-owned” (ibid.))
“[F]or profit (…) HMO market share (Shen et al. 2010, 42)
Whether firm is publicly-traded (Brooks, Dor & Wong 1997)
Whether firm “is on the 1992 list of Fortune 500 manufacturing or Fortune 500 service firms” (Brooks, Dor & Wong 1997, 427)
Whether it is a profit distributing organization
“type of insurance plan” (Dor et al. 2004b, 162) (“[m]ajor medical” (ibid.); “PPO” (ibid.); POS-HMO; Fee-for-service (166))
“[i]nsurance type” (Dor et al. 2004a, 355) (FFS; “Major-medical” (ibid.); “PPO” (ibid.); “HMO” (ibid.))
Whether contracts for multiple years are used (favorable to insurer and hospital). Contracts need to be very specific
Whether the insurer and hospital have agreements for multiple years
“[M]easure of relative attractiveness of the hospital, which is assumed to be common across individuals” (Town & Vistnes 2001, 738)
“[b]rand name identity” (Devers et al. 2003, 432)

Reputation of the hospital or hospital system (Berenson et al. 2012)
Reputation hospitals
Hospital's reputation concerning his portfolio (e.g. good reputation for groin ruptures)
Reputation of the hospital
Whether the insurer sets its own additional quality standards and measurements next to the already existing ones
Whether the insurer sets additional volume requirements (e.g. in cooperation with professional associations) on top of the IGZ minimum volume requirements
Whether the insurer has a regional role and responsibility
Whether insurers set extra quality requirements on top of the usual minimum quality requirements for a hospital
Last year's negotiated price
Whether an insurer sets additional quality criteria on top of national criteria
"[a]bility to absorb hospital payment rate increases due to rising premiums" (Devers et al. 2003, 432)

APPENDIX F: QUESTIONNAIRE (IN DUTCH AND ENGLISH)

First the questionnaire in Dutch will be presented, then the one in English. The lay-out of the questionnaire is adapted to the format of this thesis and is not the original lay-out. All questions were mandatory, except for the last question and the questions that were not applicable (e.g. the underlying factors for which the main factor was already scored "0" were automatically scored "0" as well and some of the final questions were only applicable to either insurers or hospitals)

- Questionnaire in Dutch:

Onderhandelingsposities ziekenhuizen en zorgverzekeraars

Deze enquête is onderdeel van een master-scriptie over de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de zorginkoop/-verkoop. Het doel van deze scriptie is te achterhalen hoe ziekenhuizen en zorgverzekeraars hun onderhandelingsposities ervaren en welke factoren naar hun mening van invloed zijn op deze posities. Deze enquête heeft als voornaamste doel deze factoren uit te vragen en het relatieve belang van deze factoren te achterhalen.

Het invullen en verwerken van deze enquête gebeurt anoniem: ik kan niet zien welke specifieke respondent de enquête heeft ingevuld. De master-scriptie, waarin een verslag van de enquêteresultaten zal worden opgenomen, zal een openbaar document zijn. Deze scriptie en daarmee dit onderzoek wordt uitgevoerd vanuit de opleiding Health Economics, Policy & Law aan de Erasmus Universiteit Rotterdam en in samenwerking met de Nederlandse Mededingingsautoriteit (NMa).

Het invullen van de enquête zal ongeveer 15 minuten in beslag nemen.

Uitleg vraagstelling van de enquête

Hier volgt een uitleg over de gebruikte vraagstelling in deze enquête en de antwoordopties.

Er wordt gevraagd factoren die de onderhandelingspositie mogelijk beïnvloeden een bepaalde score te geven. Deze factoren staan steeds in kolommen opgesomd. Het is de bedoeling dat u per pagina iedere factor minimaal 0 en maximaal 100 punten geeft. Van belang is dat u op iedere pagina de factor die volgens u de meeste invloed heeft op de onderhandelingsposities van ziekenhuizen en verzekeraars met 100 punten waardeert. Naarmate een factor ten opzichte van de belangrijkste factor(en) van minder belang is, dient u deze minder punten te geven.

Voorbeeld:

Onderstaande factoren hebben mogelijk invloed op de onderhandelingsposities van ziekenhuizen en zorgverzekeraar tijdens de onderhandelingen m.b.t. zorginkoop/-verkoop over 2012. Geef iedere factor een score tussen de 0 en 100, waarbij u 100 punten geeft aan de factor die volgens u de meeste invloed heeft.
Factor A

Factor B

Factor C

Factor D

Stel u vindt dat factor B van de genoemde factoren het meeste invloed heeft op de onderhandelingsposities, dat factor A ongeveer half zoveel invloed heeft als factor B en factor C en D helemaal geen invloed hebben op de onderhandelingsposities. Dan vult u de volgende scores in:

Factor A: 50
Factor B: 100
Factor C: 0
Factor D: 0

Als naar u mening Factor C en D beiden het meeste invloed hebben, factor A geen invloed heeft en factor B maar een klein beetje invloed heeft op de onderhandelingsposities (bijv. 10x minder invloed dan C en D), vult u bijvoorbeeld het volgende in:

Factor A: 0
Factor B: 10
Factor C: 100
Factor D: 100

Wanneer naar uw mening alle genoemde factoren EVENVEEL invloed hebben op de onderhandelingsposities, mag u bij alle factoren de score "100" invullen.

Wanneer naar uw mening de genoemde factoren allen GEEN invloed hebben op de onderhandelingsposities, mag u bij alle factoren de score "0" invullen. Dit is de enige situatie waarbij geen van de factoren score "100" krijgt. In alle andere gevallen krijgt minimaal 1 van de factoren een score "100".

Probeer tijdens het invullen van de vragen de onderhandelingen over 2012 tussen een ziekenhuis en een zorgverzekeraar voor te stellen. Het gaat bij het invullen om uw persoonlijke mening.

Een samenvatting van bovenstaande uitleg is beschikbaar als helptekst bij de vragen. U kunt deze helptekst te zien krijgen als u met de muis op HELP-knop achter de betreffende vraag gaat staan.

Kenmerken/eigenschappen van het ziekenhuis, van de zorgverzekeraar en van de onderhandelingskoppels

Onderstaande factoren hebben mogelijk invloed op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop. Geef iedere factor een score tussen de 0 en 100, waarbij u 100 punten geeft aan de factor die volgens u de meeste invloed heeft.

Specifieke kenmerken/eigenschappen van het ziekenhuis

Specifieke kenmerken/eigenschappen van de zorgverzekeraar

Kenmerken/eigenschappen van de betreffende combinatie ziekenhuis-zorgverzekeraar die samen moeten onderhandelen (bijv. de onderlinge afhankelijkheid en de verstandhouding tussen de twee partijen aan de onderhandelingstafel)

Kenmerken/eigenschappen van het ziekenhuis

Onderstaande ziekenhuiskenmerken hebben mogelijk invloed op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop. Geef ieder kenmerk een score tussen de 0 en 100, waarbij u 100 punten geeft aan het kenmerk dat volgens u de meeste invloed heeft.

Belang van het ziekenhuis voor de betreffende regio
(bijv. bezettingsgraad van het ziekenhuis, beschikbare capaciteit in de regio, kenmerken van andere ziekenhuizen in de regio, marktaandeel)

Competenties van het onderhandelingsteam van het ziekenhuis

Prestatie van het ziekenhuis op het gebied van publieke belangen
(betaalbaarheid, kwaliteit, toegankelijkheid)

Relatie van het ziekenhuis met de patiënten

Relatie van het ziekenhuis met de huisartsen in de regio

Relatie van het ziekenhuis met andere zorgaanbieders (niet zijnde huisartsen) in de regio

Relatie van de Raad van Bestuur van het ziekenhuis met de medische staf

Type ziekenhuis
(UMC, topklinisch, algemeen)

Kenmerken/eigenschappen van de zorgverzekeraar

Onderstaande kenmerken van de zorgverzekeraar hebben mogelijk invloed op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop. Geef ieder kenmerk een score tussen de 0 en 100, waarbij u 100 punten geeft aan het kenmerk dat volgens u de meeste invloed heeft.

Competenties van het onderhandelingsteam van de zorgverzekeraar

Marktaandeel van de zorgverzekeraar in de betreffende regio

Mate waarin de zorgverzekeraar in staat is om verzekerden te sturen naar voorkeursaanbieders

Relatie van de zorgverzekeraar met de verzekerden

Relatie van de zorgverzekeraar met huisartsen in de regio

Kenmerken/eigenschappen van de onderhandelingskoppels

Onderstaande kenmerken van de betreffende onderhandelingskoppels die plaatsnemen aan de onderhandelingstafel, hebben mogelijk invloed op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de

onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop. Geef ieder kenmerk een score tussen de 0 en 100, waarbij u 100 punten geeft aan het kenmerk dat volgens u de meeste invloed heeft.

Belang van de betreffende zorgverzekeraar voor het ziekenhuis waarmee onderhandeld wordt
(bijv. het aandeel patiënten van het ziekenhuis dat bij deze zorgverzekeraar verzekerd is)

Belang van het betreffende ziekenhuis voor de zorgverzekeraar waarmee onderhandeld wordt
(bijv. het aandeel verzekerden van de verzekeraar dat van dit ziekenhuis gebruik maakt)

Onderlinge verstandhouding/relatie tussen het ziekenhuis en de zorgverzekeraar waarmee onderhandeld wordt

Een aantal van de tot nu toe uitgevraagde factoren en kenmerken wordt in het volgende deel van de enquête verder uitgesplitst.

Belang van het ziekenhuis voor de betreffende regio

Eerder is de factor "Belang van het ziekenhuis voor de betreffende regio" genoemd. Hieronder wordt dit uitgesplitst in factoren die aan dit belang bijdragen. Geef iedere factor een score tussen de 0 en 100, waarbij u 100 punten geeft aan de factor die volgens u de meeste invloed heeft op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop.

Beschikbare capaciteit in de regio

Bezettingsgraad van het ziekenhuis

Kenmerken van andere ziekenhuizen in de regio

Marktaandeel van het ziekenhuis in de regio

Prestatie van het ziekenhuis op het gebied van publieke belangen

Eerder is de factor "Prestatie van het ziekenhuis op het gebied van publieke belangen" genoemd. Hieronder wordt dit uitgesplitst in de prestatie van het ziekenhuis op de specifieke publieke belangen. Geef iedere onderstaande factor een score tussen de 0 en 100, waarbij u 100 punten geeft aan de factor die volgens u de meeste invloed heeft op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop.

Financiële situatie van het ziekenhuis
(efficiëntie, vermogenspositie, winstgevendheid)

Kwaliteit van het ziekenhuis

Fysieke bereikbaarheid van het ziekenhuis
(auto, openbaar vervoer, parkeergelegenheid)

Wachttijden van het ziekenhuis

Mate waarin de zorgverzekeraar in staat is om verzekerden te sturen naar voorkeursaanbieders: mogelijke instrumenten

Eerder is de factor "Mate waarin de zorgverzekeraar in staat is om verzekerden te sturen naar zorgaanbieders" genoemd. Hieronder wordt dit uitgesplitst in verschillende instrumenten die zorgverzekeraars hiervoor kunnen gebruiken. Geef de onderstaande instrumenten een score tussen de 0 en 100, waarbij u 100 punten geeft aan het instrument waarvan het gebruik volgens u de meeste invloed heeft op de onderhandelingsposities van ziekenhuizen en zorgverzekeraars tijdens de onderhandelingen over 2012 m.b.t. zorginkoop/-verkoop.

Aanwijzen van voorkeursaanbieders maar met behoud van keuzevrijheid voor verzekerden

Beïnvloeding van de publieke opinie en de opinie van verzekerden m.b.t. het sturen van verzekerden naar voorkeursaanbieders

Gebruik van collectieve contracten, waardoor de zorgverzekeraar sturing kan geven aan grotere groepen verzekerden

Keuzebeïnvloeding door actieve zorgbemiddeling

Selectief contracteren i.c.m. beperkte of geen vergoeding bij het gebruik van niet-gecontracteerde zorg

Nu volgen enkele afsluitende vragen ten behoeve van de analyse van de resultaten

Werkt u voor een ziekenhuis of een zorgverzekeraar/zorginkoopcombinatie?

- Ziekenhuis
- Zorgverzekeraar of zorginkoopcombinatie

Werkt u voor één van de vier grote zorgverzekeraars in Nederland of voor een kleinere zorgverzekeraar/zorginkoopcombinatie?

- Ik werk voor één van de vier grote zorgverzekeraars (Achmea, VGZ, Menzis of CZ)
- Ik werk voor een kleinere zorgverzekeraar of een zorginkoopcombinatie

Hieronder staat de beddencapaciteit in categorieën uitgedrukt, als maat voor de grootte van het ziekenhuis. Bij welke categorie hoort het ziekenhuis waarvoor u werkt?

- < 250 bedden
- 250 - 500 bedden
- 500 - 750 bedden
- 750 - 1000 bedden
- < 1000 bedden

Voor welk type ziekenhuis werkt u?

- Algemeen ziekenhuis
- Topklinisch ziekenhuis
- UMC

In wat voor een regio is het ziekenhuis waarvoor u werkt gevestigd?

- Niet stedelijk
- Weinig stedelijk
- Matig stedelijk

- Sterk stedelijk
- Zeer sterk stedelijk

Welke onderhandelingspositie had uw organisatie tijdens de zorginkoop-/-verkooponderhandelingen over 2012, naar uw eigen mening?

- Over het algemeen hadden wij een zwakkere onderhandelingspositie dan de partij aan de andere kant van de onderhandelingstafel
- Over het algemeen hadden wij een gelijke onderhandelingspositie als de partij aan de andere kant van de onderhandelingstafel
- Over het algemeen hadden wij een sterkere onderhandelingspositie dan de partij aan de andere kant van de onderhandelingstafel
- Onze onderhandelingspositie was geheel afhankelijk van welke partij er aan de andere kant van de onderhandelingstafel zat
- Anders, namelijk…

Hoe heeft u de onderhandelingen m.b.t. zorginkoop/-verkoop over 2012 ervaren?

…

Hartelijk dank voor uw deelname aan de enquête. U mag op "Afsluiten" klikken om de enquête te beëindigen.

- Questionnaire in English:

Bargaining positions hospitals and health insurers

This questionnaire is part of a master thesis about the bargaining positions of hospitals and health insurers during health care purchasing/selling. The goal of this thesis is to find out how hospitals and health insurers experience their own bargaining positions and which factors, to their opinion, are influencing these positions. The main goal of this questionnaire is to ask questions about these factors and to find out the relative importance of these factors.

Participation in this questionnaire and the analysis of results will be anonymous: I cannot see which specific respondent has filled in the questionnaire. The master thesis, in which a report of the questionnaire results will be included, will be a public document. This thesis and therefore this research is realized as part of the master Health Economics, Policy & Law at the Erasmus University Rotterdam and in cooperation with the Netherlands Competition Authority (NMa)

Filling in the questionnaire will take about 15 minutes.

Explanation of questionnaire questions

An explanation about the type of questions in this questionnaire and the possible answering categories will follow.
You will be ask to score certain factors that possibly influence the bargaining position. These factors will be summed up in columns. Per page you need to give each factor a minimum score of 0 and a maximum score of 100. It is important that on each page, you will give 100 point to the factor that influences the bargaining positions of hospitals and insurers most according to you. The other, less important factors you will give a lower score, in relation to this/these most important factor(s).

Example:

The factors below possibly influence the bargaining position of hospitals and health insurers during the negotiations for 2012 about health care purchasing/selling. Score each factor between 0 and 100 and give 100 points to the factor that, according to you, has the largest influence.
Factor A

Factor B

Factor C

Factor D

Presume you think factor B of the mentioned factors has the most influence on the bargaining positions, factor A has about half as much influence as factor B, and factor C and D do not have any influence on the bargaining positions. Then you need to fill in the following scores:

Factor A: 50
Factor B: 100
Factor C: 0
Factor D: 0

If, in your opinion, factor C and D both have the most influence, factor A has not influence and factor B has just a bit of influence on the bargaining positions (e.g. 10 times less influence than C and D), you will fill in:

Factor A: 0
Factor B: 10
Factor C: 100
Factor D: 100

When, in your opinion, all factors mentioned have an EQUAL influence on the bargaining positions, you can score all factors “100”.

When, in your opinion, all the mentioned factors DO NOT HAVE ANY influence on the bargaining positions, you can score all factors “0”. This is the only situation in which none of the factors is scored “100”. In all other cases, at least one factor is scored “100”.

When you answer the questions try to keep the negotiation for 2012 between a hospital and an insurer in mind. When answering the questions it is all about your personal opinion.

A summary of the above explanation is available as help text with the questions. You can see this help text when you move your mouse cursor over the HELP-button at the end of the specific question.

Characteristics of the hospital, of the health insurer, and of the bargaining couples

The factors below possibly influence the bargaining position of hospitals and health insurers during the negotiations for 2012 about health care purchasing/selling. Score each factor between 0 and 100 and give 100 points to the factor that, according to you, has the largest influence.

Specific characteristics of the hospital

Specific characteristics of the health insurer

Characteristics of the specific hospital-insurer combination negotiating together
(e.g. the mutual dependence and the relationship between the two parties at the negotiation table)

Characteristics of the hospital

The hospital characteristics below possibly influence the bargaining position of hospitals and health insurers during the negotiations for 2012 about health care purchasing/selling. Score each characteristic between 0 and 100 and give 100 points to the characteristic that, according to you, has the largest influence.

Importance of the hospital to the specific region
(e.g. occupancy rate of the hospital, available capacity in the region, characteristics of other hospitals, market share)

Competencies of the negotiation team of the hospital

Performance of the hospital in the area of public interests
(affordability, quality, accessibility)

Relationship of the hospital with the patients

Relationship of the hospital with the GPs in the region

Relationship of the hospital with other health care providers (excluding GPs) in the region

Relationship of the Board of Directors of the hospital with the specialist staff

Type of hospital
(university, top clinical, general)

Characteristics of the health insurer

The insurer characteristics below possibly influence the bargaining position of hospitals and health insurers during the negotiations for 2012 about health care purchasing/selling. Score each characteristic between 0 and 100 and give 100 points to the characteristic that, according to you, has the largest influence.

Competencies of the negotiation team of the health insurer

Market share of the health insurer in the specific region

The extent to which the health insurer is able to steer its customers to preferred providers

Relationship of the health insurer with its customers

Relationship of the health insurers with GPs in the region

Characteristics of bargaining couples

The characteristics of bargaining couples below possibly influence the bargaining position of hospitals and health insurers during the negotiations for 2012 about health care purchasing/selling. Score each characteristic between 0 and 100 and give 100 points to the characteristic that, according to you, has the largest influence.

Importance of the specific health insurer to the hospital it is negotiating with
(e.g. the share of the hospital's patients that is insured by this health insurer)

Importance of the specific hospital to the health insurer it is negotiating with
(e.g. the share of the insurer's customers using this hospital)

Mutual relationship between the hospital and the health insurer it is negotiating with

Some of the factors in the previous questions will be split up in more factors in the next part of the questionnaire.

Importance of the hospital to the specific region

Before, the factor "Importance of the hospital to the specific region" was mentioned. Below, this factor will be split up into factors contributing to this factor. Score each factor between 0 and 100 and give 100 points to the factor that, according to you, has the largest influence on the bargaining positions during the negotiations for 2012 about health care purchasing/selling.

Available capacity in the region

Occupancy rate of the hospital

Characteristics of other hospitals in the region

Market share of the hospital in the region

Performance of the hospital in the area of public interests

Before, the factor "Performance of the hospital in the area of public interests" was mentioned. Below, this factor will be split up into the performance of the hospital on specific public interests. Score each factor between 0 and 100 and give 100 points to the factor that, according to you, has the largest influence on the bargaining positions during the negotiations for 2012 about health care purchasing/selling.

Financial situation of the hospital
(efficiency, solvency, profitability)

Quality of the hospital

Physicial accessibility of the hospital

(car, public transport, parking)

Waiting times of the hospital

The extent to which the health insurer is able to steer its customers to preferred providers: possible instruments

Before, the factor "The extent to which the health insurer is able to steer its customers to preferred providers" was mentioned. Below, this factor will be split up into the different instrument health insurers can use for this. Score each instrument between 0 and 100 and give 100 points to the instrument of which the usage, according to you, has the largest influence on the bargaining positions during the negotiations for 2012 about health care purchasing/selling.

Selecting preferred providers while not restricting the customer's freedom of choice

Influencing public opinion and its customers' opinion about steering customers to preferred providers

Using group contracts, by which the health insurer can channel bigger groups of customers

Influencing choice by active health care mediation

Selective contracting combined with restricted or no reimbursement for use of non-contracted care

Now a few final questions for the analysis of the results will be asked

Do you work for a hospital or a health insurer / health care purchasing organization?

- Hospital
- Health insurer or health care purchasing organizaiton

Do you work for one of the four large health insurers in the Netherlands or for a smaller health insurer / health care purchasing organization?

- I work for one of the four large health insurers (Achmea, VGZ, Menzis, or CZ)
- I work for a smaller health insurer or health care purchasing organization

Below the hospital bed capacity is put into categories as a measure for the hospital size. To which category the hospital you work for belong?

- < 250 beds
- 250 - 500 beds
- 500 - 750 beds
- 750 - 1000 beds
- < 1000 beds

What type of hospital do you work for?

- General hospital
- Top clinical hospital
- University hospital

In what region is the hospital you work for located?

- Not urban
- A little urban
- Moderately urban
- Strongly urban
- Very strongly urban

What bargaining position did your organization have during the negotiations for 2012 about health care purchasing/selling, in your opinion?

- In general, we had a weaker bargaining position than the party on the other side of the negotiating table
- In general, we had an equal bargaining position as the party on the other side of the negotiating table
- In general, we had a stronger bargaining position than the party on the other side of the negotiating table
- Our bargaining position was completely dependent on which party sat on the other side of the negotiating table
- Other, that is …

How have you experiences the negotiations for 2012 about health care purchasing/selling?

…

Thank you very much for you participated in this questionnaire. You can click on "Close" to close this questionnaire.

APPENDIX G: HOSPITALS AND INSURERS APPROACHED FOR THE QUESTIONNAIRE

The hospitals that were approached to participate in the questionnaires are listed in the table below. The table is based on http://www.zorgatlas.nl/object_binary/o4494_zkhloc.xls. Each organization was contacted beforehand to, if possible, get a specific contact person to send the questionnaire to.

	Naam organisatie	Locatienamen
1	Academisch Medisch Centrum	• Academisch Medisch Centrum
2	Academisch Ziekenhuis Maastricht	• Academisch Ziekenhuis Maastricht
3	Albert Schweitzer Ziekenhuis	• Dordwijk • Zwijndrecht • Sliedrecht • Amstelwijck
4	Rijnstate[8]	• Ziekenhuis Rijnstate • Ziekenhuis Zevenaar • Ziekenhuis Velp
5	Amphia Ziekenhuis	• Molengracht • Langendijk • Pasteurlaan
6	Antonius Ziekenhuis	• Antonius Ziekenhuis Sneek
7	Atrium Medisch Centrum	• Heerlen • Brunssum • Kerkrade
8	BovenIJ Ziekenhuis	• BovenIJ Ziekenhuis
9	Canisius-Wilhelmina Ziekenhuis	• Canisius-Wilhelmina Ziekenhuis
10	Catharina Ziekenhuis	• Catharina Ziekenhuis
11	Ommelander Ziekenhuisgroep	• Delfzicht Ziekenhuis • Lucas Ziekenhuis
12	Diaconessenhuis Leiden	• Diaconessenhuis Leiden
13	Diakonessenhuis	• Utrecht • Zeist
14	Elkerliek Ziekenhuis	• Helmond
15	Erasmus Medisch Centrum	• Erasmus Medisch Centrum • Sophia • Daniel den Hoed
16	Flevoziekenhuis	• Flevoziekenhuis
17	Franciscus Ziekenhuis	• Franciscus Ziekenhuis
18	Gelre Ziekenhuizen	• Het Spittaal • Lukas
19	Groene Hart Ziekenhuis	• Bleuland • Jozef
20	HagaZiekenhuis	• Leyenburg • Locatie Sportlaan • Juliana
21	Havenziekenhuis	• Havenziekenhuis
22	IJsselland Ziekenhuis	• IJsselland Ziekenhuis
23	MC Groep	• Zuiderzeeziekenhuis • Dokter J.H. Jansenziekenhuis
24	Ikazia Ziekenhuis	• Ikazia Ziekenhuis
25	Isala Klinieken	• Weezenlanden • Sophia
26	Jeroen Bosch Ziekenhuis	• 's-Hertogenbosch
27	Kennemer Gasthuis	• Locatie Zuid • Locatie Noord
28	Laurentius Ziekenhuis	• Laurentius Ziekenhuis
29	Leids Universitair Medisch Centrum	• Academisch Ziekenhuis Leiden
30	Martini Ziekenhuis	• Van Swieten
31	Máxima Medisch Centrum	• Veldhoven • Eindhoven

[8] This organization is called Alysis Zorggroep on http://www.zorgatlas.nl/object_binary/o4494_zkhloc.xls. However, it is currently called Rijnstate.

32	Meander Medisch Centrum	• Amersfoort Lichtenberg • Baarn • Amersfoort Elisabeth • Soest
33	MCA Gemini Groep[9]	• Medisch Centrum Alkmaar • Gemini Ziekenhuis
34	Medisch Centrum Haaglanden	• Antoniushoeve • Westeinde
35	Maasstad ziekenhuis	• Maasstad ziekenhuis
36	Medisch Spectrum Twente	• Ariënsplein • Haaksbergerstraat • Oldenzaal
37	Nij Smellinghe	• Nij Smellinghe
38	Onze Lieve Vrouwe Gasthuis	• Oosterpark • Prinsengracht
39	Admiraal De Ruyter Ziekenhuis	• Ziekenhuis Goes • Ziekenhuis Zierikzee • Ziekenhuis Vlissingen
40	Orbis Medisch en Zorgconcern	• Maaslandziekenhuis
41	Pantein	• Maasziekenhuis Pantein
42	Refaja Ziekenhuis	• Refaja Ziekenhuis Stadskanaal
43	Reinier de Graaf Groep	• Reinier de Graaf Gasthuis • Diaconessenhuis Voorburg
44	Rijnland Ziekenhuis	• Leiderdorp • Alphen aan den Rijn
45	Rivas Zorggroep	• Beatrixziekenhuis
46	Rode Kruis Ziekenhuis	• Rode Kruis Ziekenhuis Beverwijk
47	Ruwaard Van Putten Ziekenhuis	• Ruwaard Van Putten Ziekenhuis
48	Saxenburgh Groep	• Ziekenhuis Röpcke Zweers • Dagziekenhuis Aleida Kramer
49	Slingeland Ziekenhuis	• Slingeland Ziekenhuis
50	Slotervaartziekenhuis	• Slotervaartziekenhuis
51	Spaarne Ziekenhuis	• Hoofddorp • Heemstede
52	St. Anna Zorggroep	• St. Annaziekenhuis
53	St. Antonius Ziekenhuis	• St. Antonius Ziekenhuis • St. Antonius Ziekenhuis Oudenrijn • St. Antonius Ziekenhuis Overvecht
54	St. Elisabeth Ziekenhuis	• St. Elisabeth Ziekenhuis
55	St. Franciscus Gasthuis	• St. Franciscus Gasthuis • Locatie Berkel
56	St. Jans Gasthuis	• St. Jans Gasthuis
57	Ziekenhuis St. Jansdal	• St. Jansdal
58	St. Lucas Andreas Ziekenhuis	• St. Lucas Andreas Ziekenhuis
59	Stichting Bronovo-Nebo	• Ziekenhuis Bronovo
60	Pasana Zorggroep	• Ziekenhuis de Sionsberg
61	Stichting Deventer Ziekenhuisgroep	• Rielerenk
62	Stichting het Van Weel-Bethesda Ziekenhuis	• Van Weel-Bethesda Ziekenhuis Dirksland
63	Tergooiziekenhuizen	• Ziekenhuis Hilversum • Ziekenhuis Gooi-Noord
64	Stichting Ziekenhuis Lievensberg	• Ziekenhuis Lievensberg
65	Streekziekenhuis Koningin Beatrix	• Streekziekenhuis Koningin Beatrix
66	't Lange Land Ziekenhuis	• 't Lange Land Ziekenhuis
67	TweeSteden ziekenhuis	• Tilburg • Waalwijk
68	Universitair Medisch Centrum Groningen	• Universitair Medisch Centrum Groningen
69	Universitair Medisch Centrum St. Radboud	• Universitair Medisch Centrum St. Radboud
70	Universitair Medisch Centrum Utrecht	• Academisch Ziekenhuis Utrecht • Wilhelmina Kinderziekenhuis
71	VieCuri Medisch Centrum	• Venlo • Venray
72	Vlietland Ziekenhuis	• Schiedam
73	VU Medisch Centrum	• VU Medisch Centrum
74	Waterlandziekenhuis	• Waterlandziekenhuis
75	Westfries Gasthuis	• Westfries Gasthuis
76	Wilhelmina Ziekenhuis Assen	• Wilhelmina Ziekenhuis Assen

[9] In http://www.zorgatlas.nl/object_binary/o4494_zkhloc.xls these were listed as two different organizations: Medisch Centrum Alkmaar and Gemini Ziekenhuis.

77	Zaans Medisch Centrum	• Zaans Medisch Centrum
78	Ziekenhuis Amstelland	• Ziekenhuis Amstelland
79	Ziekenhuis Bernhoven	• Oss • Veghel
80	Ziekenhuis De Gelderse Vallei	• Ziekenhuis De Gelderse Vallei
81	Ziekenhuis Rivierenland	• Ziekenhuis Rivierenland
82	ZorgSaam Zeeuws-Vlaanderen	• Antonius • De Honte
83	Ziekenhuisgroep Twente	• Streekziekenhuis Midden-Twente • Twenteborg Ziekenhuis
84	Zorgcombinatie Noorderboog	• Diaconessenhuis Meppel
85	Zorgpartners Friesland[10]	• Medisch Centrum Leeuwarden • De Tjongerschans
86	Zorggroep Leveste Middenveld[11]	• Scheperziekenhuis • Ziekenhuis Bethesda Hoogeveen
87	Zuwe	• Zuwe Hofpoort Ziekenhuis

The insurers that were approached to participate in the questionnaires are listed in the table below. Again, each organization was contacted beforehand to, if possible, get a specific contact person to send the questionnaire to. Multizorg VRZ was also contacted, even though this is officially not an insurer.

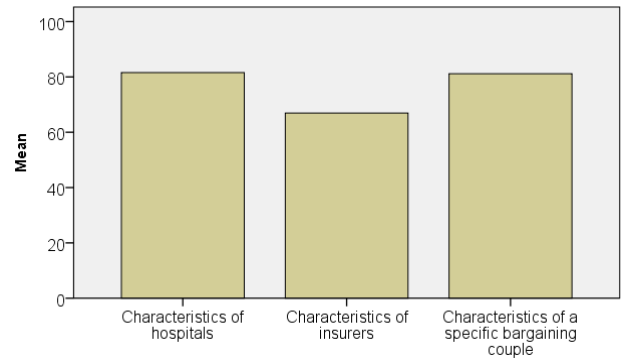
	Naam organisatie
1	Achmea
2	VGZ
3	CZ
4	Menzis
5	DSW-SH
6	Eno
7	Zorg & Zekerheid
8	Multizorg VRZ

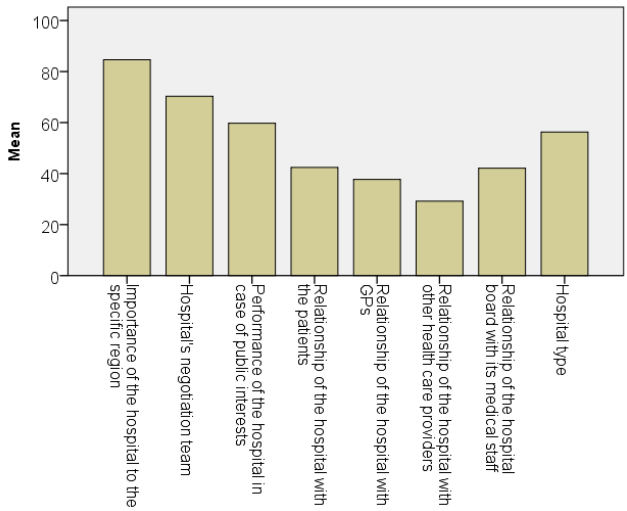
The questionnaire was sent three times to all organizations: once when on the starting date (August 27th 2012), once a reminder after a week and a half (September 5th 2012), and once on the last day to fill in the questionnaire (September 14th 2012). An exception for these emails was made for people who communicated not wanting/being able to participate or who responded to have already filled in the questionnaire.

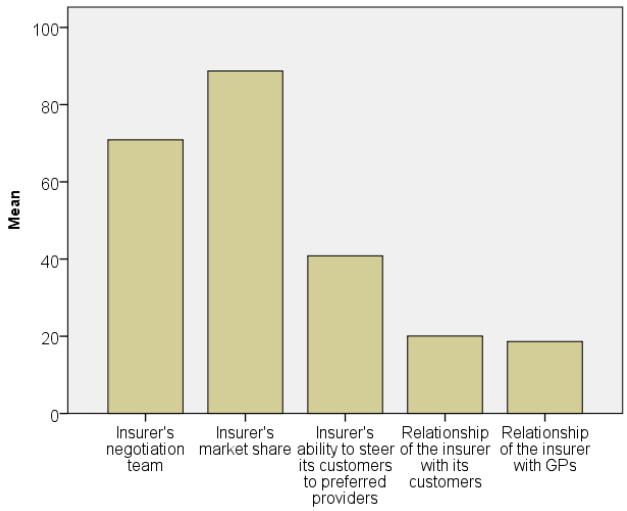
[10] In http://www.zorgatlas.nl/object_binary/o4494_zkhloc.xls these were listed as two different organizations: Zorggroep Noorderbreedte and De Tjongerschans.
[11] In http://www.zorgatlas.nl/object_binary/o4494_zkhloc.xls these were listed as two different organizations: Leveste and Ziekenhuis Bethesda.

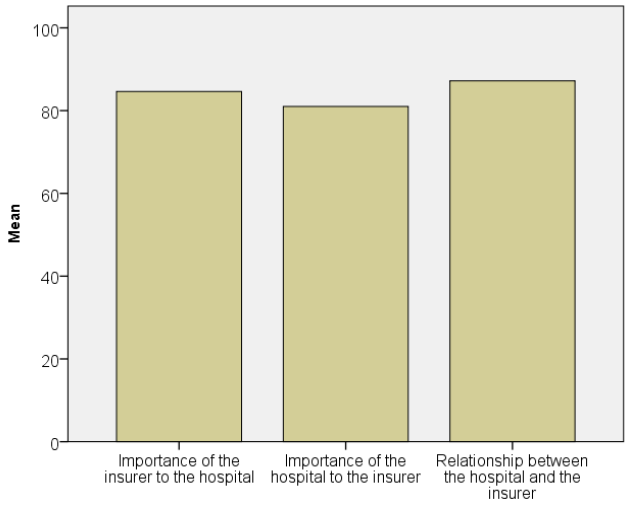
APPENDIX H: DESCRIPTIVE STATISTICS QUESTIONNAIRE (BAR CHARTS)

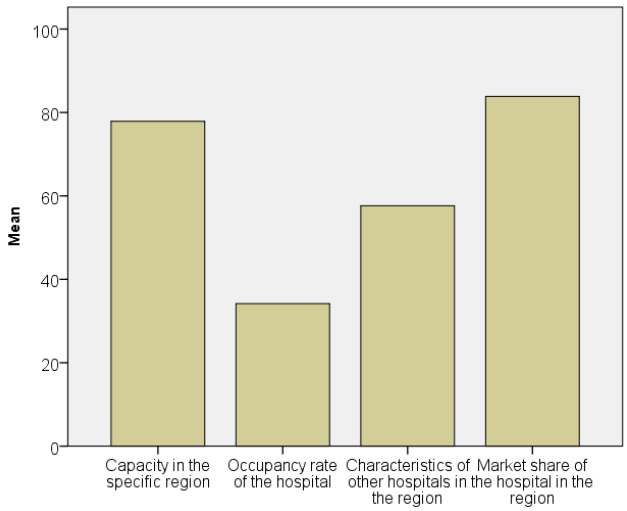
- The means per question of the total group of respondents:

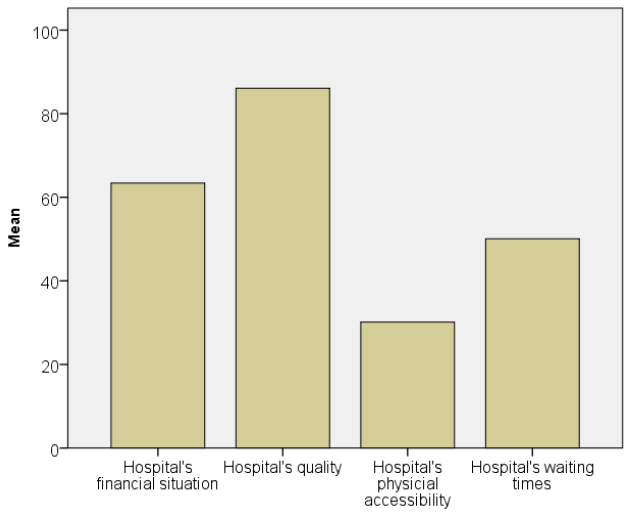


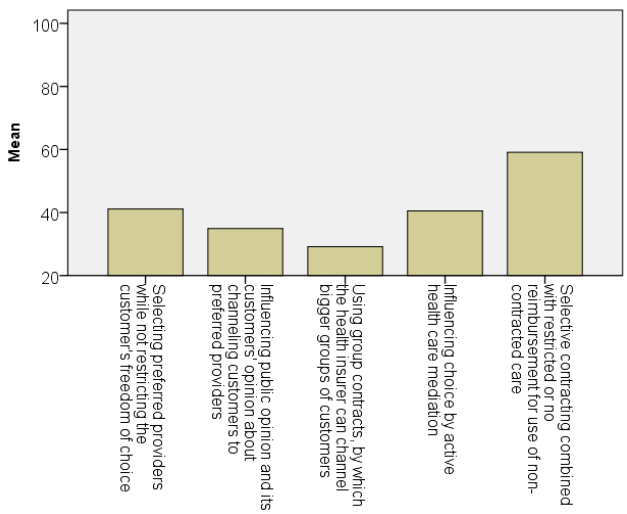




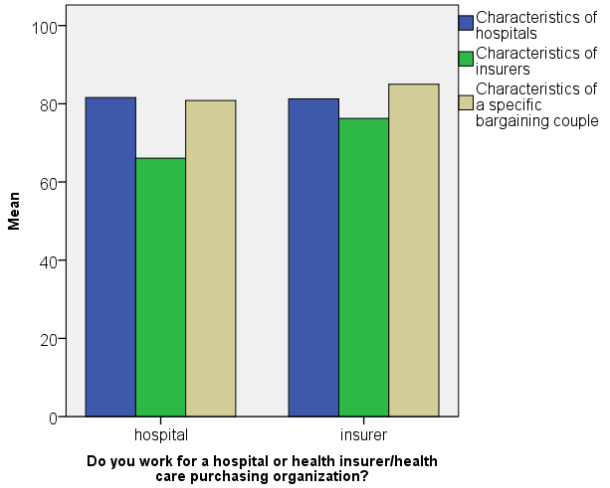

Mean
100
80
60
40
20
0
Importance of the insurer to the hospital
Importance of the hospital to the insurer
Relationship between the hospital and the insurer

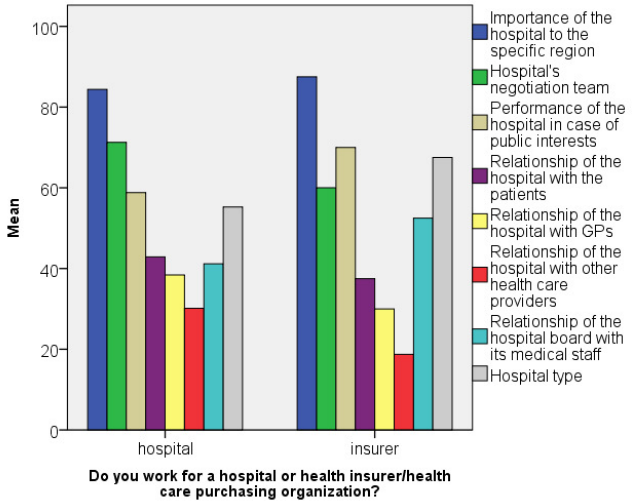

Mean
100
80
60
40
20
0
Capacity in the specific region
Occupancy rate of the hospital
Characteristics of other hospitals in the region
Market share of the hospital in the region

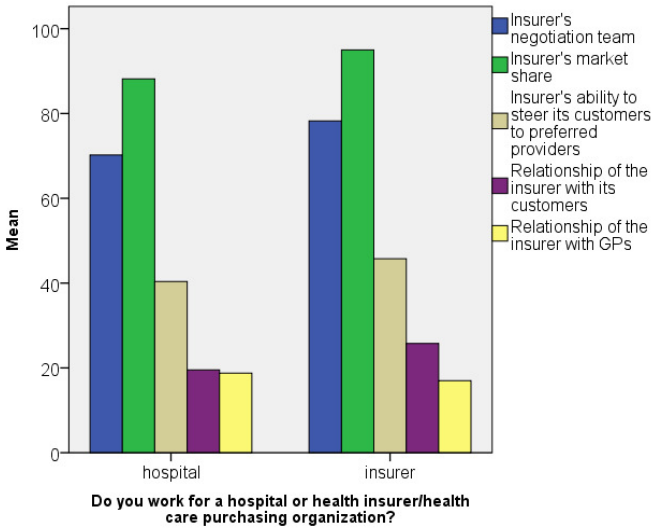

Mean
100
80
60
40
20
0
Hospital's financial situation
Hospital's quality
Hospital's physicial accessibility
Hospital's waiting times

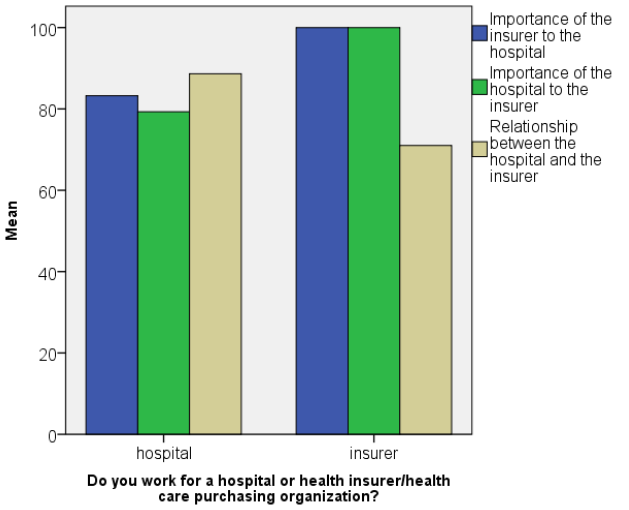

Mean
100
80
60
40
20
Selecting preferred providers while not restricting the customer's freedom of choice
Influencing public opinion and its customers' opinion about channeling customers to preferred providers
Using group contracts, by which the health insurer can channel bigger groups of customers
Influencing choice by active health care mediation
Selective contracting combined with restricted or no reimbursement for use of non-contracted care

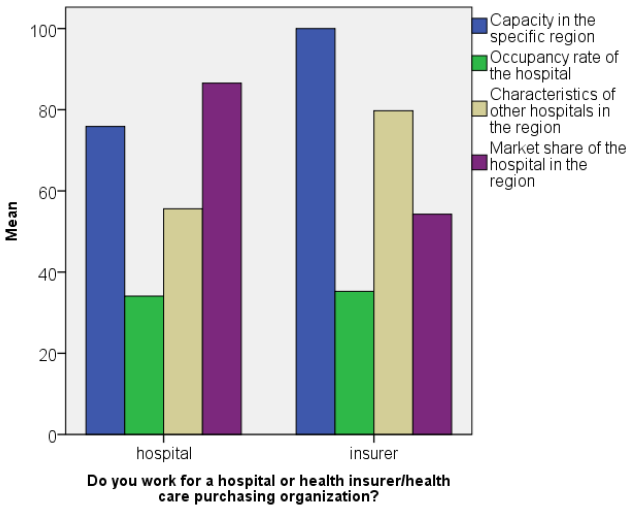
- The means per question of the hospitals versus the insurers:

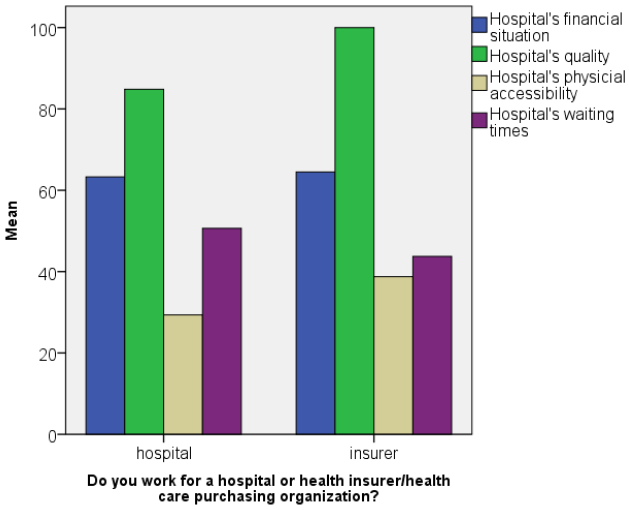


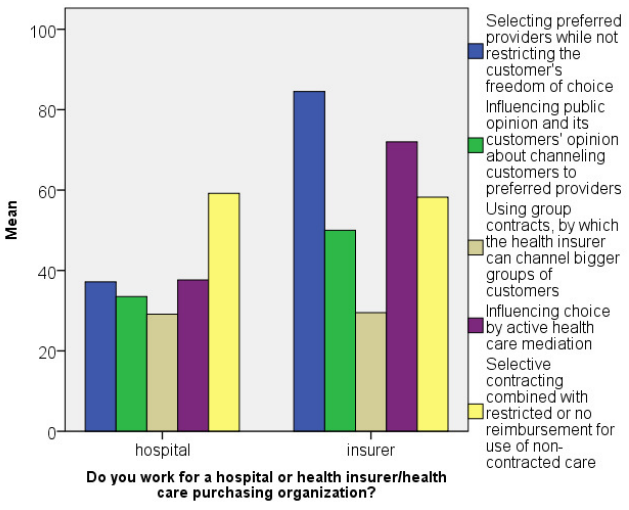




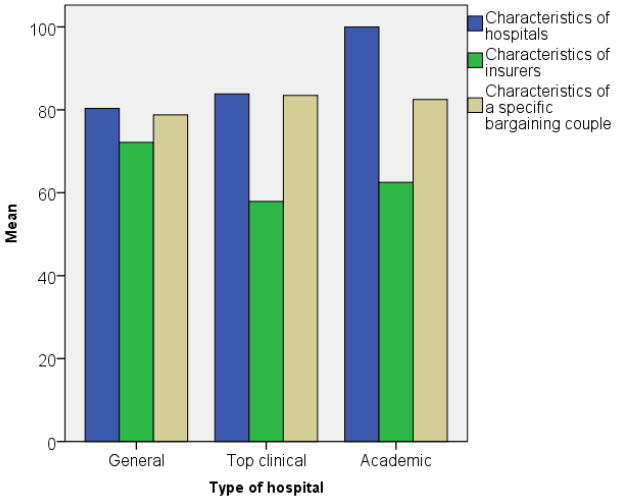

Mean
100
80
60
40
20
0
hospital
insurer
Do you work for a hospital or health insurer/health care purchasing organization?
Importance of the insurer to the hospital
Importance of the hospital to the insurer
Relationship between the hospital and the insurer

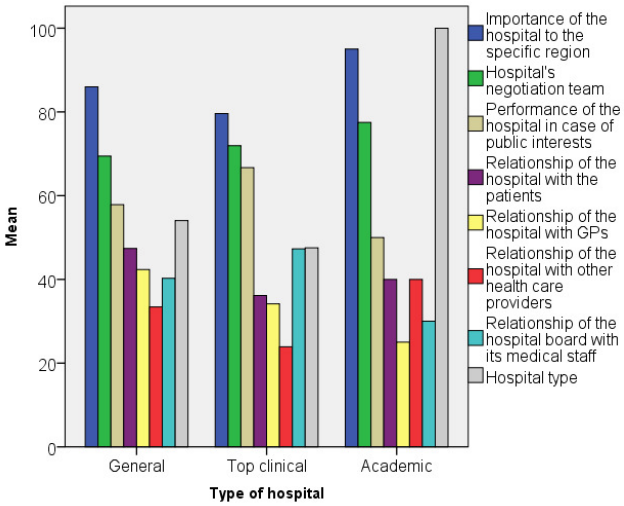

Mean
100
80
60
40
20
0
hospital
insurer
Do you work for a hospital or health insurer/health care purchasing organization?
Capacity in the specific region
Occupancy rate of the hospital
Characteristics of other hospitals in the region
Market share of the hospital in the region

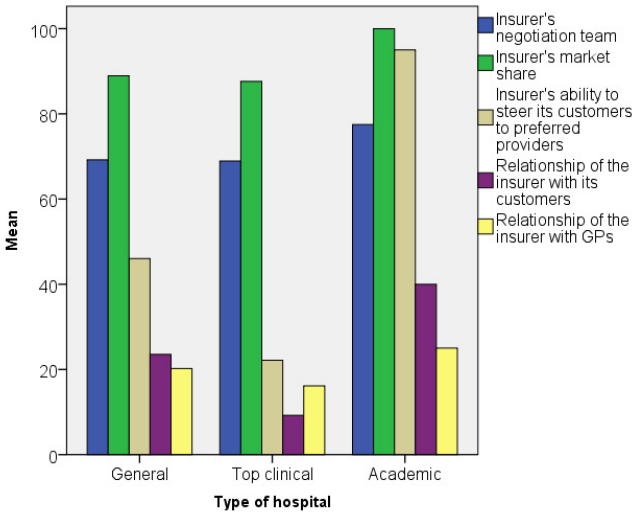

Mean
100
80
60
40
20
0
hospital
insurer
Do you work for a hospital or health insurer/health care purchasing organization?
Hospital's financial situation
Hospital's quality
Hospital's physicial accessibility
Hospital's waiting times

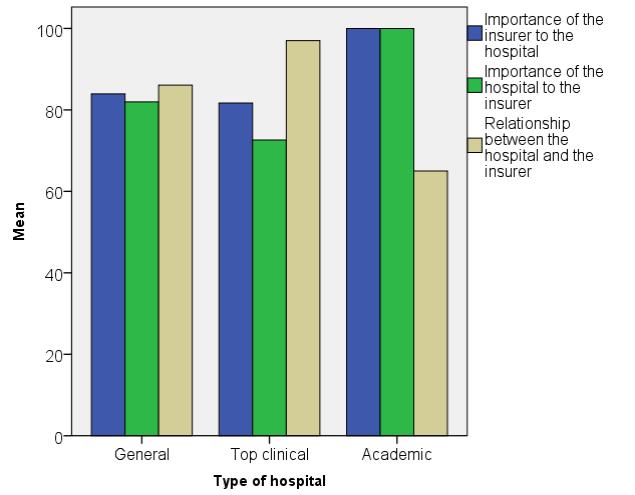

Mean
100
80
60
40
20
0
hospital
insurer
Do you work for a hospital or health insurer/health care purchasing organization?
Selecting preferred providers while not restricting the customer's freedom of choice
Influencing public opinion and its customers' opinion about channeling customers to preferred providers
Using group contracts, by which the health insurer can channel bigger groups of customers
Influencing choice by active health care mediation
Selective contracting combined with restricted or no reimbursement for use of non-contracted care

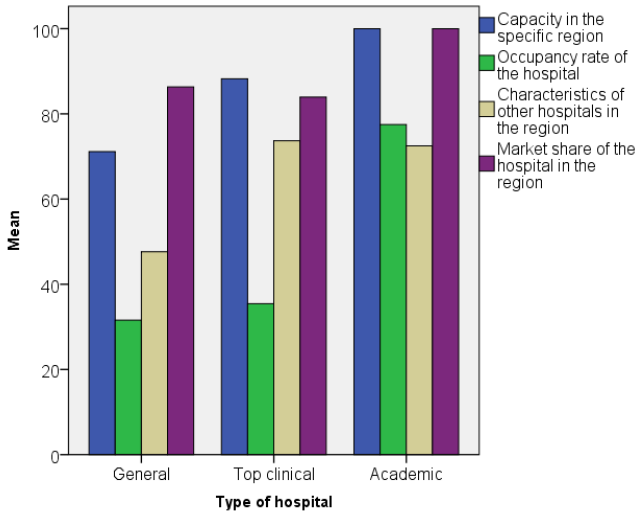
- The means for different types of hospitals

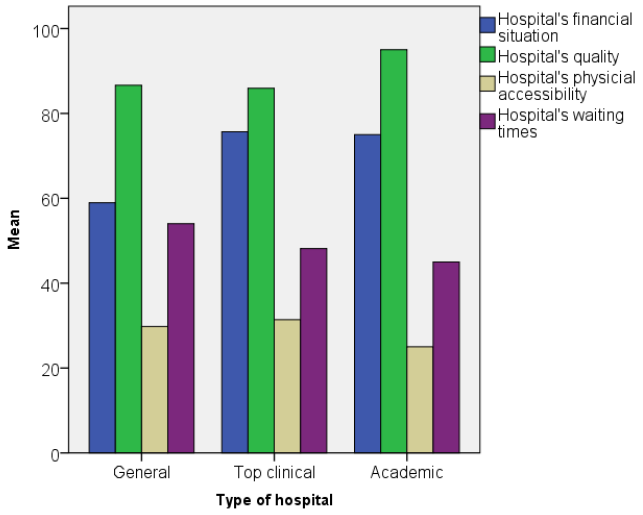


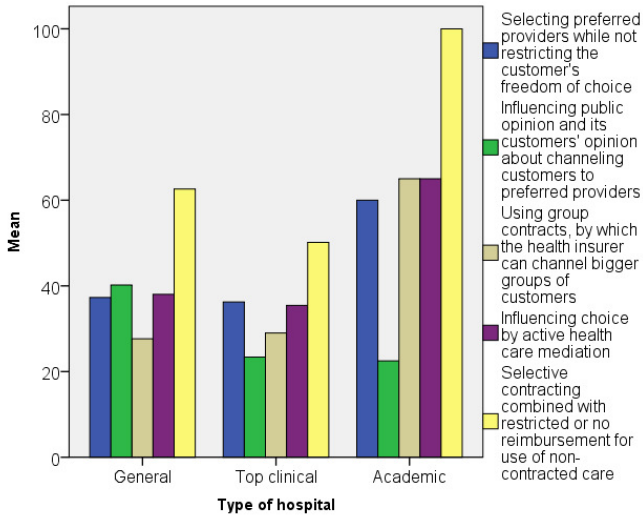




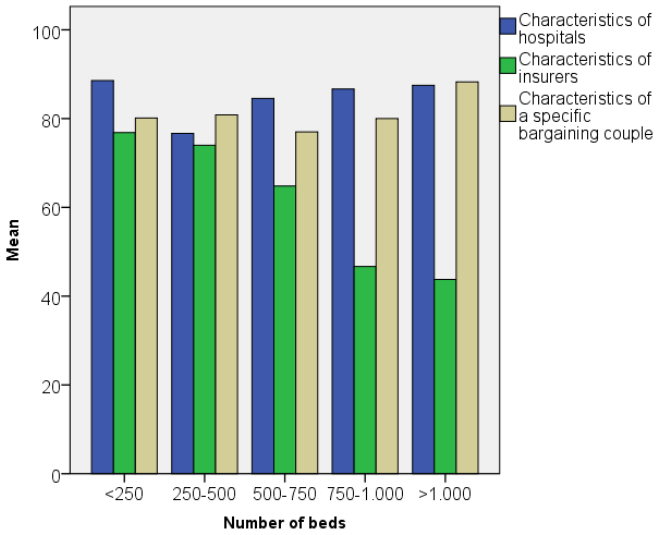

Mean
100
80
60
40
20
0
General
Top clinical
Academic
Type of hospital
Importance of the insurer to the hospital
Importance of the hospital to the insurer
Relationship between the hospital and the insurer

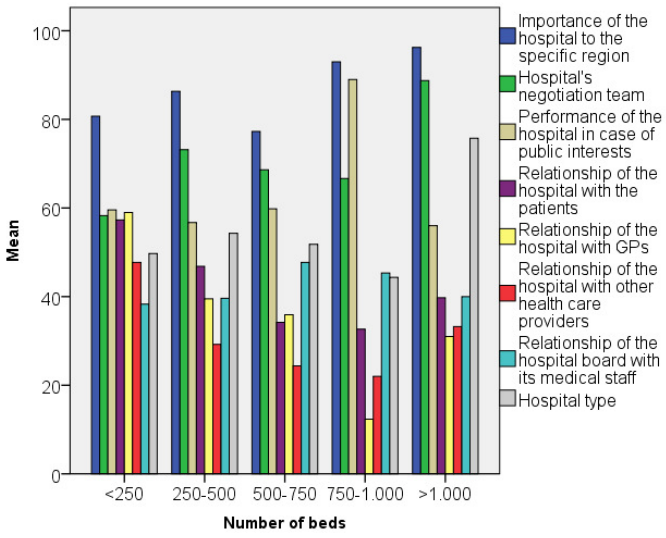

Mean
100
80
60
40
20
0
General
Top clinical
Academic
Type of hospital
Capacity in the specific region
Occupancy rate of the hospital
Characteristics of other hospitals in the region
Market share of the hospital in the region

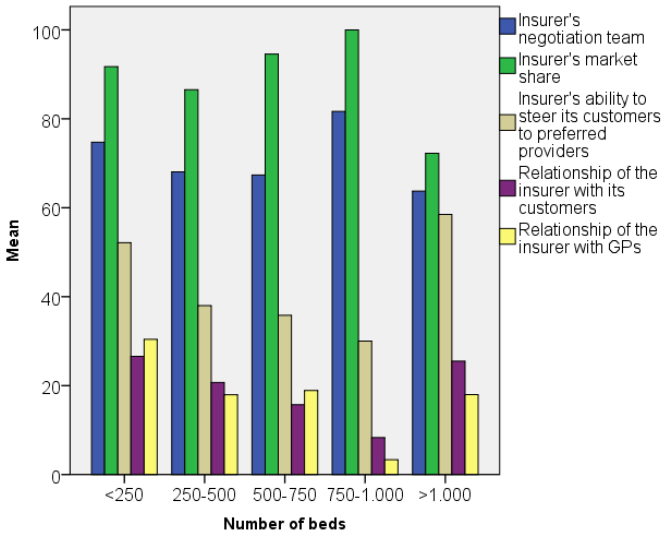

Mean
100
80
60
40
20
0
General
Top clinical
Academic
Type of hospital
Hospital's financial situation
Hospital's quality
Hospital's physicial accessibility
Hospital's waiting times

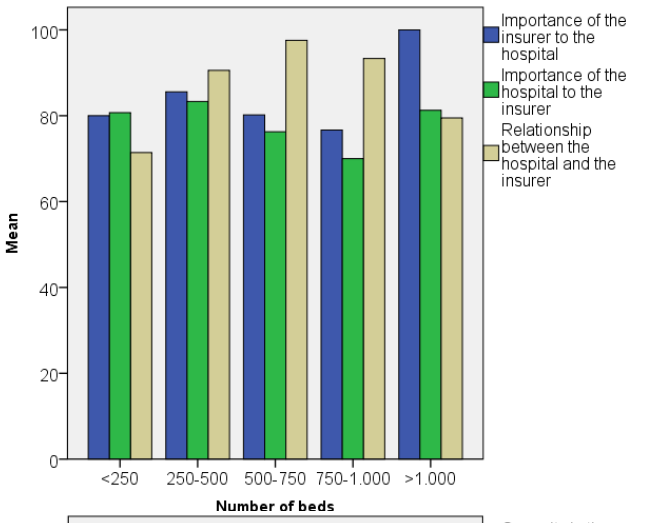

Mean
100
80
60
40
20
0
General
Top clinical
Academic
Type of hospital
Selecting preferred providers while not restricting the customer's freedom of choice
Influencing public opinion and its customers' opinion about channeling customers to preferred providers
Using group contracts, by which the health insurer can channel bigger groups of customers
Influencing choice by active health care mediation
Selective contracting combined with restricted or no reimbursement for use of non-contracted care

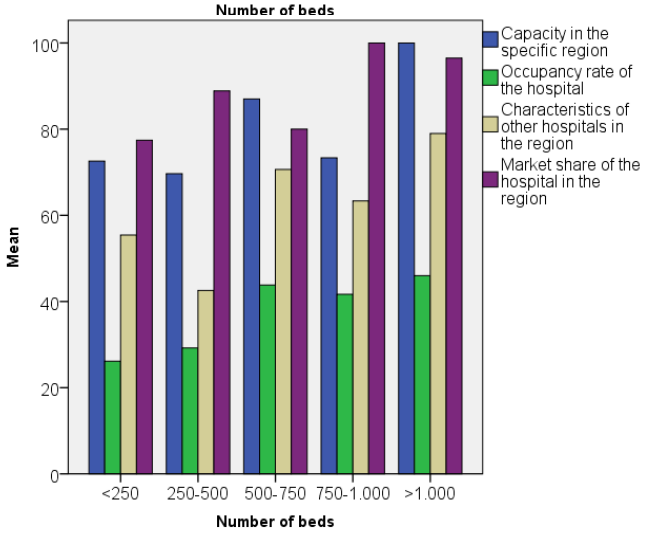
- The means per question for different sizes of hospitals

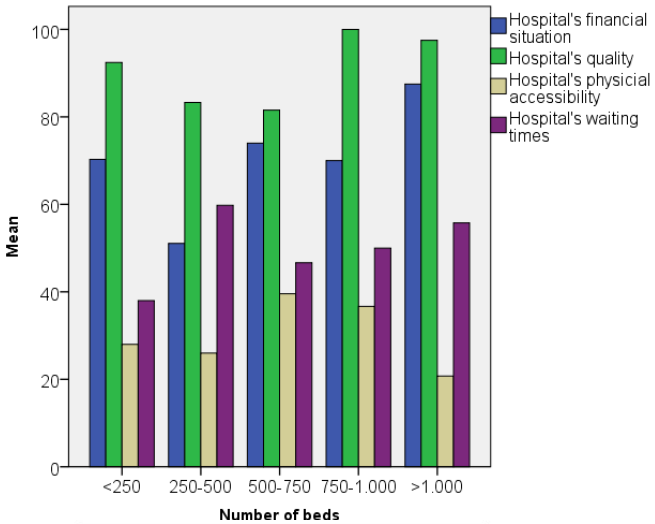


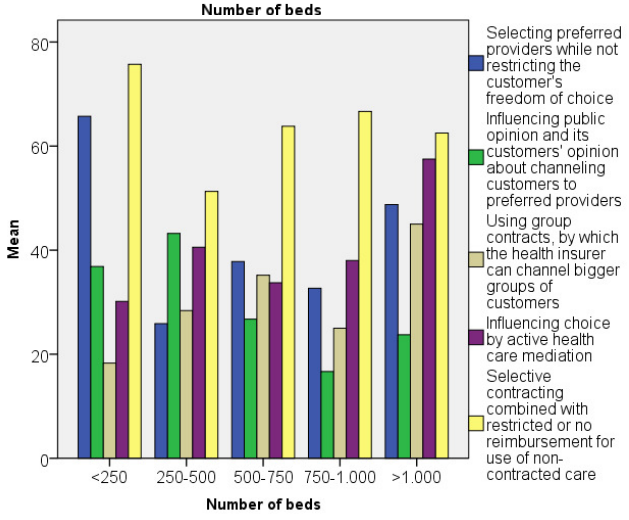




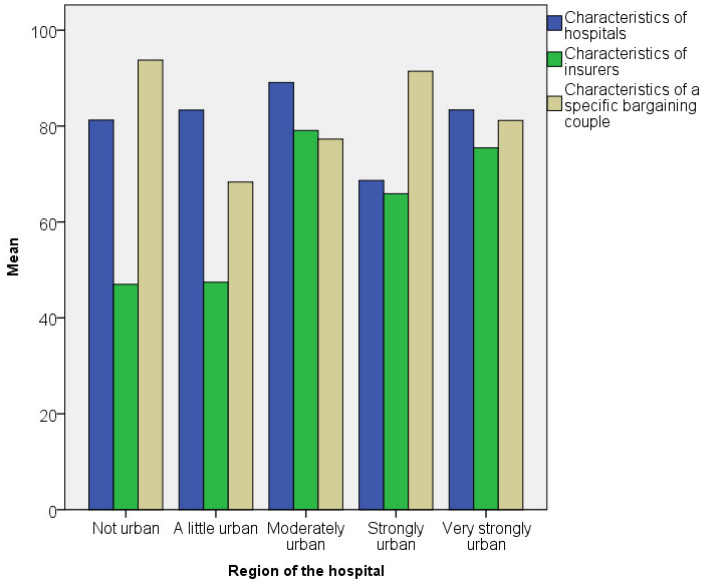

Importance of the insurer to the hospital
Importance of the hospital to the insurer
Relationship between the hospital and the insurer
Mean
100
80
60
40
20
0
<250
250-500
500-750
750-1.000
>1.000
Number of beds

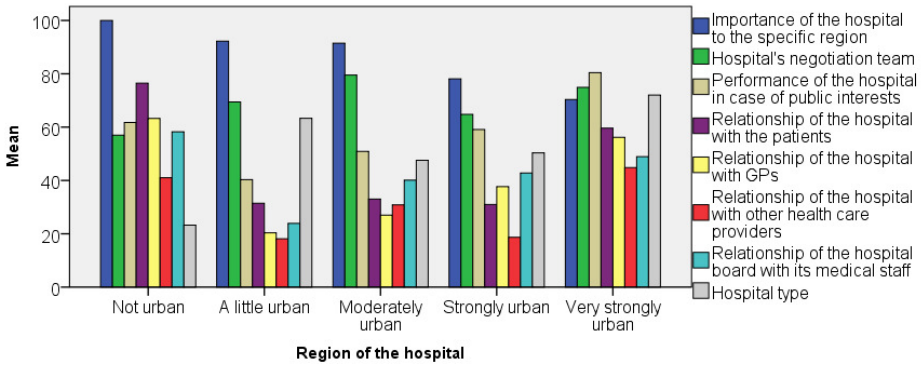

Capacity in the specific region
Occupancy rate of the hospital
Characteristics of other hospitals in the region
Market share of the hospital in the region
Mean
100
80
60
40
20
0
<250
250-500
500-750
750-1.000
>1.000
Number of beds

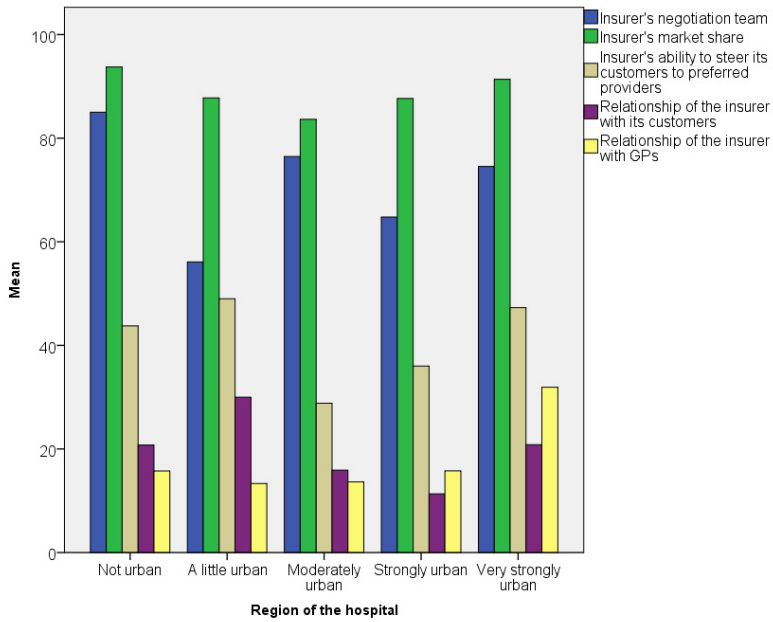

Hospital's financial situation
Hospital's quality
Hospital's physicial accessibility
Hospital's waiting times
Mean
100
80
60
40
20
0
<250
250-500
500-750
750-1.000
>1.000
Number of beds

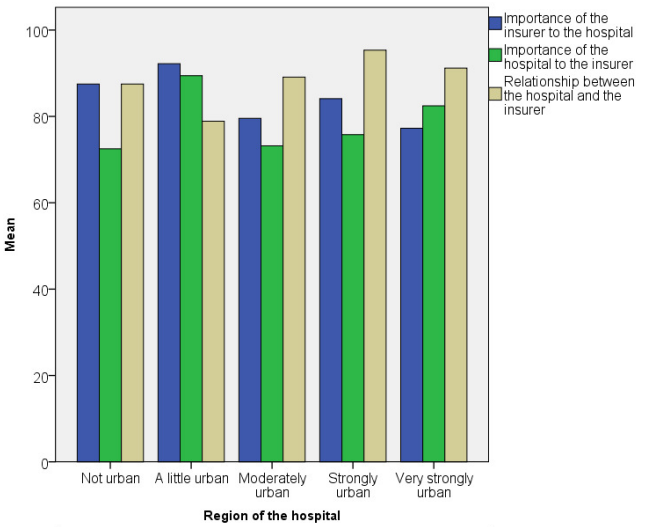

Selecting preferred providers while not restricting the customer's freedom of choice
Influencing public opinion and its customers' opinion about channeling customers to preferred providers
Using group contracts, by which the health insurer can channel bigger groups of customers
Influencing choice by active health care mediation
Selective contracting combined with restricted or no reimbursement for use of non-contracted care
Mean
80
60
40
20
0
<250
250-500
500-750
750-1.000
>1.000
Number of beds

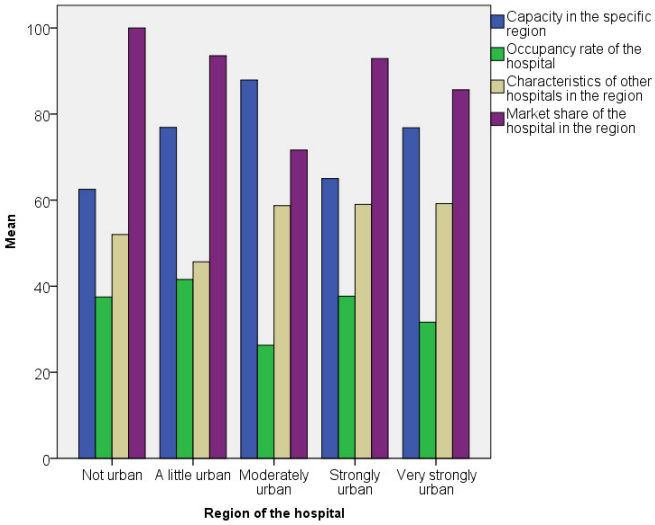
- The means per question for the different regions hospitals are situated:

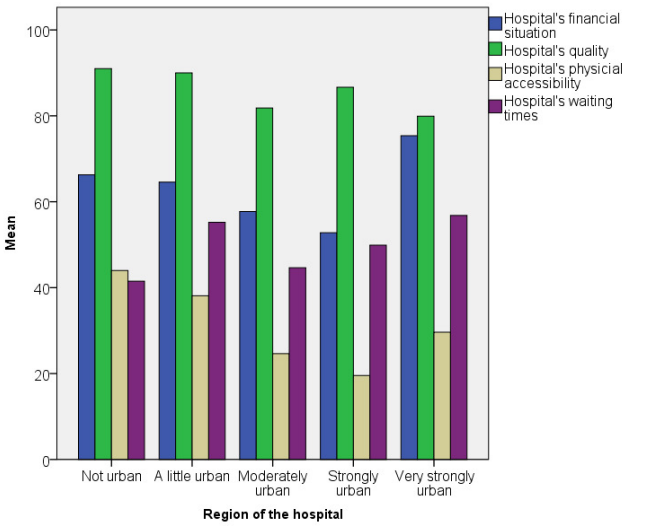


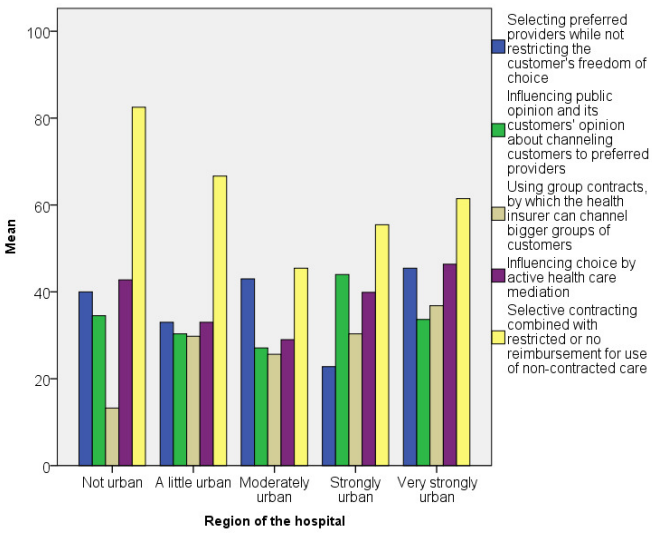





Importance of the insurer to the hospital
Importance of the hospital to the insurer
Relationship between the hospital and the insurer
Mean
100
80
60
40
20
0
Not urban
A little urban
Moderately urban
Strongly urban
Very strongly urban
Region of the hospital


Capacity in the specific region
Occupancy rate of the hospital
Characteristics of other hospitals in the region
Market share of the hospital in the region
Mean
100
80
60
40
20
0
Not urban
A little urban
Moderately urban
Strongly urban
Very strongly urban
Region of the hospital


Hospital's financial situation
Hospital's quality
Hospital's physicial accessibility
Hospital's waiting times
Mean
100
80
60
40
20
0
Not urban
A little urban
Moderately urban
Strongly urban
Very strongly urban
Region of the hospital


Selecting preferred providers while not restricting the customer's freedom of choice
Influencing public opinion and its customers' opinion about channeling customers to preferred providers
Using group contracts, by which the health insurer can channel bigger groups of customers
Influencing choice by active health care mediation
Selective contracting combined with restricted or no reimbursement for use of non-contracted care
Mean
100
80
60
40
20
0
Not urban
A little urban
Moderately urban
Strongly urban
Very strongly urban
Region of the hospital

APPENDIX I: DEFINITIONS OF ABBREVIATED DETERMINANTS

Code	Description of the determinant
Char_hosp	Characteristics of hospitals
Char_insur	Characteristics of insurers
Char_couple	Characteristics of a specific bargaining couple
Hosp_region	Importance of the hospital to the specific region
Hosp_team	Hospital's negotiation team
Hosp_pubint	Performance of the hospital in the area public interests
Hosp_relpat	Relationship of the hospital with the patients
Hosp_relGP	Relationship of the hospital with GPs
Hosp_relhcp	Relationship of the hospital with other health care providers
Hosp_relmedstaff	Relationship of the board of directors of the hospital with its medical staff
Hosp_type	Hospital type
Ins_team	Insurer's negotiation team
Ins_markshare	Insurer's market share
Ins_steering	Insurer's ability to steer its customers to preferred providers
Ins_relcust	Relationship of the insurer with its customers
Ins_relGP	Relationship of the insurer with GPs
Coup_impins2hosp	Importance of the insurer to the hospital
Coup_imphosp2ins	Importance of the hospital to the insurer
Coup_rel	Relationship between the hospital and the insurer
Region_cap	Capacity in the specific region
Region_occ	Occupancy rate of the hospital
Region_otherhosp	Characteristics of other hospitals in the region
Region_markshare	Market share of the hospital in the region
Pubint_fin	Hospital's financial situation
Pubint_qual	Hospital's quality
Pubint_access	Hospital's physicial accessibility
Pubint_wait	Hospital's waiting times
Steer_prefprov	Selecting preferred providers while not restricting the customer's freedom of choice
Steer_opin	Influencing public opinion and its customers' opinion about channeling customers to preferred providers
Steer_group	Using group contracts, by which the health insurer can channel bigger groups of customers
Steer_hcmed	Influencing choice by active health care mediation
Steer_selcont	Selective contracting combined with restricted or no reimbursement for use of non-contracted care