Physician-Hospital Alignment:
Economic, Administrative and Professional Aspects

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2014

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Submitted at Ghent University Faculty of Economics and Business Administration
In partial fulfillment of the requirements for the degree of Doctor in Applied Economics
“Success is the ability to go from failure to failure without losing your enthusiasm.”

– Sir Winston Churchill –
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AGPI</td>
<td>Annual Gross Physician Income</td>
</tr>
<tr>
<td>CMO</td>
<td>Chief Medical Officer</td>
</tr>
<tr>
<td>DPP</td>
<td>Direct Personal Participation</td>
</tr>
<tr>
<td>DRG</td>
<td>Diagnosis Related Groups</td>
</tr>
<tr>
<td>DBC</td>
<td>Diagnose Behandel Combinatie</td>
</tr>
<tr>
<td>DJ</td>
<td>Distributive Justice</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GHIMD</td>
<td>Gross Hospital Income Minus Deductions</td>
</tr>
<tr>
<td>HPRs</td>
<td>Hospital-Physician Relationships</td>
</tr>
<tr>
<td>IOM</td>
<td>Institute Of Medicine</td>
</tr>
<tr>
<td>ISI</td>
<td>Indirect Stimulating Involvement</td>
</tr>
<tr>
<td>KCE</td>
<td>Federaal Kenniscentrum voor de Gezondheidszorg</td>
</tr>
<tr>
<td>LMX</td>
<td>Leader-Member Exchange</td>
</tr>
<tr>
<td>MAHA</td>
<td>Model for Automatic Hospital Analyses</td>
</tr>
<tr>
<td>MD</td>
<td>Medical Doctor</td>
</tr>
<tr>
<td>OCB</td>
<td>Organizational Citizenship Behavior</td>
</tr>
<tr>
<td>OECD</td>
<td>The Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>PCBa</td>
<td>Administrative Psychological Contract Breach</td>
</tr>
<tr>
<td>PCBp</td>
<td>Professional Psychological Contract Breach</td>
</tr>
<tr>
<td>PJ</td>
<td>Procedural Justice</td>
</tr>
<tr>
<td>SD</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>VIF</td>
<td>Variation of Inflation Factor</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
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Chapter 1.
Introduction

‘... Running even the most complicated corporation must sometimes seem like child’s play compared to trying to manage almost any hospital ...’ (Mintzberg & Glouberman, 1997)
Hospital-Physician Relationships (HPRs) are an important area of academic research given the impact physicians have on hospitals’ financial performance (Goes & Zhan, 1995), quality of provided care (Fisher, Staiger, Bynum, & Gottlieb, 2007) and service delivery (Gemmel & Verleye, 2010). Besides their managerial importance, HPRs are at the center of attention of international health policy reform. Arguably, to be successful most of these reforms must rely on collaboration between hospitals and their medical staffs to organize and coordinate care and deliver it efficiently within budgetary limits (Burns & Muller, 2008). Therefore HPRs pose a significant challenge for hospital executives, physician-specialists and health policy makers. In general HPRs are considered a research priority for both the area of health care management and health services research.

In the following pages we aim to sketch the background of HPRs in Belgium briefly in order to develop an understanding of the specific context in which HPRs are formed. A description of the broader healthcare context, as well as legal and financial background is provided. Thereafter we continue with the problem definition and description of the central concepts of physician-hospital alignment and physician-hospital integration on which this thesis builds further. This is followed by a description of the central theories used in this thesis. More specifically, the basic principles and insights of agency theory and social exchange theory (the psychological contract and leader-member exchange) are clarified. Finally, we provide an overview of our studies and central aims of this thesis and explain how we contribute to the literature by discussing the research rationale. We conclude with the outline of this thesis.

1. Contextual Background

Hospitals face turbulent times. Currently many western countries are seeking ways to increase the efficiency of care delivery and improve the quality of delivered care. These efforts reflect stakeholders’ expectations of improving performance in response to two important evolutions.

On the one hand, rising healthcare expenditures are a global phenomenon and the share of the gross domestic product attributed to healthcare is continuously increasing in developed countries. This trend is likely to intensify, following the recession that became widespread since 2009 (OECD, 2012). In addition, because of ageing populations, emerging new
technologies and ongoing progress in medical science, healthcare expenditure growth will not automatically slow down (Martin Martin, del Am Gonzalez, & Cano Garcia, 2011). In addition the upturn of an aging population does not only imply an increase of demand but also a downturn in the working population able to fund the care. Combined with the large historical amount of public debt this dynamic has been (quite dramatically) referred to as the “scissors of doom”. In response to this financial challenge many developed countries have shifted their attention away from building and stimulating growth of the healthcare delivery system and turned their focus of healthcare policy to cost control in order to limit further growth of healthcare expenditures (European Hospital Federation, 2011). Figure 1.1 provides an overview of the average OECD health expenditure growth. Hence, the financial sustainability of healthcare is put into question and therefore policy makers and public health authorities develop stronger incentives for healthcare providers to utilize healthcare resources more efficiently. As a result the hospital sector faces the challenge of becoming more efficient in a changing healthcare environment characterized by increased medical complexity, rising costs and declined margins (Cardinaels, Roodhooft, & van Herck, 2004).

**Figure 1.1:** Healthcare expenditures (OECD Health Data, 2013)
On the other hand there is recognition that healthcare systems suffer from unexplained variability and gaps in quality of care. For specific examples in the area of Belgian secondary care we like to refer to our recent studies of hospital readmissions (Trybou, Spaepen, Vermeulen, Porrez, & Annemans, 2013a) and hospital-acquired infections (Trybou, Spaepen, Vermeulen, Porrez, & Annemans, 2013b). Overall, ever since the Institute of Medicine’s (2001) ground-breaking work ‘Crossing the quality chasm: a new health system for the 21 century’, it became clear that health care delivery systems currently in place are frequently poorly organized. In this work the authors made an urgent call for fundamental change to close the quality gap and recommended a redesign of health care systems. This problem is multifaceted and highly complex (table 1.1). However, a key aspect is that care delivery is fragmented and often coordinated inadequately, slowing down the highly needed improvement of care delivery. Hospitals are therefore charged with the development of internal organizations where high-quality care is delivered within budgetary limits.

**Table 1.1: Six aims of improvement of quality of care (based on IOM, 2001)**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Avoiding injuries to patients resulting from the care that is intended to help them.</td>
<td>Mortality rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Postoperative complications</td>
</tr>
<tr>
<td>Effective</td>
<td>Providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit.</td>
<td>Adherence to guidelines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evidence Based Medicine</td>
</tr>
<tr>
<td>Patient-centered</td>
<td>Providing care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.</td>
<td>Patient satisfaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quality of service delivery</td>
</tr>
<tr>
<td>Timely</td>
<td>Reducing waits and potentially harmful delays for both those who receive and those who give care.</td>
<td>Waiting time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time to treatment</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Avoiding waste, including waste of equipment, supplies, ideas and energy.</td>
<td>Cost of care delivery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cost-effective care</td>
</tr>
<tr>
<td>Equitable</td>
<td>Delivering health care which does not vary in quality because of personal characteristics.</td>
<td>Socio-economic status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Race</td>
</tr>
</tbody>
</table>
These two central concerns have increased health policy makers’ awareness of possibilities to reduce the variability of hospital performance. This makes it unlikely that hospitals will be able to meet these challenges without enhanced cooperation with their medical staff members. Specifically, the hospital needs to evolve from a \textit{physician’s workshop} to an \textit{accountable organization} delivering \textit{integrated care and services}. Therefore, the role of hospitals shifts from a facilitating function with a purely logistic focus (providing space, equipment and staff to physicians) to facilitating the coordination of patient-centered care. The role of the physician evolves from a \textit{customer} to an active and \textit{committed partner or co-owner} in which hospital care is \textit{cocreated} by the medical staff, hospital employees and executives.

To illustrate the traditional view of a hospital as a physician workshop, Glouberman and Mintzberg (2001a) refer to the Dutch word "intervention". “Historically physicians intervene with the patients in short, often scheduled bursts—in the operating rooms, in their offices, on clinic rounds — to administer cure. Then they depart, leaving most of the "care" of the patient to the nursing staff. Thus "attending" physicians are really "intervening" physicians. In this viewpoint medical doctors see the hospital as the location of their work. As the saying goes, they work \textit{in} the hospital but not \textit{for} it. Yet that work is directly and intimately connected to the hospital. They are charged with effective cure-intervening to change the condition of the patient. This is not to imply that doctors lack involvement in the institution — many are obviously deeply devoted — but that such involvement is not rooted in formal commitment.” (Glouberman & Mintzberg, 2001a)
2. Legal Background

Physician-specialists function in hospitals as autonomous professionals. This is reflected in medical and hospital legislation, the contractual relationship between physician and hospital and the organizational structure of hospitals. In the following paragraph we aim to sketch the legal context briefly. We do not intend to provide a full detailed overview of these aspects as these issues are not our main focus and specialized literature (i.e. hospital legislation) is available.

- Physicians enjoy a monopoly in several major decision areas. Specifically the medical doctors decide to admit patients to and discharge them from the hospital, make the decision to perform a certain procedure and to prescribe pharmaceuticals (Goffin, 2011). This can be described as the physician’s medical autonomy or the freedom of a physician to deal with his or her patient and the right of self-control over decisions and work activities (Engel, 1969).

- Physicians in Belgium (and many other developed countries) are prevalingly practicing as a liberal professional and are thus self-employed. In addition they have a distinct revenue stream and their own associated financial incentives. This partly stems from their need to be able to make clinical decisions independent of external (managerial) influences or restrictions (Trybou, 2011).

- Hospital organizational structures are characterized by a clear distinct hierarchical line for physicians to other hospital members (e.g. nurses and administrative personnel). A head physician (Chief Medical Officer) is part of the hospital executive team and is responsible for shaping medical policy within the hospital. In addition, the medical board plays a central role in governing hospital-physician relationships. Elected by their peers these physicians represent the interests of the medical staff members. The board is informed and involved in hospital management and policy and provides specific advice to the hospital executive team and board of governors (trustees). While the medical board can provide advice in virtually all matters of hospital policy on its own initiative, hospital law also explicates several domains of hospital policy in which the advice is mandatory. A limited number of these advices are binding (Ceuterick & Duvillier, 2009).
3. Financial Background

Belgium has a system of compulsory health insurance, covering hospital care for the entire population. The main resources of the hospital are funded through public financing. Fees are determined on a national level per type of procedure or per stay. In general four types of financial resources can be distinguished (Trybou, 2011):

- Financing of the operating expenses (non-medical activity) is funded by a hospital budget. Hospital budgets are determined by a prospective DRG-system for in-patient care and a per-diem fee for one-day care. This fee covers the hotel costs, cost of nursing, etc.
- Financing of the medical activity is paid to physicians, mainly by fee for service. The level of income varies considerably between the different specialties. Table 1.2 provides some exemplary figures.
- A limited out-of-pocket payment by the patient exists to reduce supply-induced demand. This amount is regulated and equity-measures are taken to guarantee accessibility (i.e. an income-related budget ceiling for personal out-of-pocket healthcare expenditures).
- Financing of infrastructure is funded by a dedicated budget. This is subject to a strict procedure (i.e. strategic care planning), approval of the construction projects and is yearly tested against activity-levels.

In addition, a system of reference amounts exists to detect and control large variability in medical practices reimbursed by the fee-for-service system. It is intended for harmonizing and standardizing hospital practice of medical healthcare providers as far as homogeneous, frequent and less severe pathologies are concerned. The technique of reference amounts is similar to lump sum payments and withholdings. A selected number of medical expenditures (e.g. various medico-technical services) are compared with a reference value. If the
expenditures of a hospital exceed this reference, the surplus of expenditures is reclaimed from hospital and physicians\(^1\) by the payer.

Hospital financing is characterized by a dual split in payment between hospital and physician (figure 1.2 provides an overview). However, notwithstanding physicians operate as self-employed practitioners with a distinctive revenue stream, they need the organizational support that enables them to practice medicine. To cover these costs (reimbursed in explicitly by the medical fees\(^2\)) a negotiation takes place in each hospital between physicians and hospital representatives about the share of fees that should be transferred to the hospital.

\[\text{Figure 1.2: A brief overview of hospital financing in Belgium}\]

\(^1\) Hospital law (article 56ter of the act of 1994) states that the surplus reclaimed should be divided between physicians and hospital according to the stipulations in the internal regulation.

\(^2\) The medical fee covers the intellectual activity of the physician and the associated costs of the procedure. However, both parts of which the fee consists are not clearly defined. Historically, a fee for a limited number of representative procedures was determined by assessing and comparing the time and complexity of the procedure. Afterwards, following the evolutions in the medical field, the fees for other diagnostic and therapeutic procedures are determined by making rough estimates and comparisons.
The medical fees (revenue included in the income statement of the hospital) account for approximately 40.7% of the operating income of the Belgian hospitals. On average about 59.4% is forwarded to the medical staff. This share of financial means accounts for approximately 22% of the corrected operating income\(^3\) (and 16.8% of the total operating income) of the Belgian hospitals, illustrating the importance of this revenue stream to hospitals’ bottom line (Belfius, 2013). From a physician point of view these contributions account for 20% to 81% of physicians’ fees (Swartenbroekx et al. 2012). Table 1.2 provides a detailed overview. In general, a distinction can be drawn between two extremes: a contribution in terms of a percentage and a system based on real cost coverage in which the contribution is determined by a cost calculation system. In between there are mixed forms that combine both principles (i.e. a system of real cost coverage for direct costs combined with a contribution in terms of a percentage for indirect cost coverage).

**Table 1.2: Physician income\(^4\) and deduction rates (based on Swartenbroekx et al., 2012)**

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Average AGPI including supplements (^1)</th>
<th>Average GHIMD including supplements (^1)</th>
<th>Comparison Average GHIMD including supplements / FTE (^2)</th>
<th>Average deduction rate on AGPI including supplements (^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatrics</td>
<td>238.132</td>
<td>179.461</td>
<td>100,0</td>
<td>24,6</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>246.129</td>
<td>187.606</td>
<td>104,5</td>
<td>23,8</td>
</tr>
<tr>
<td>Gynecology</td>
<td>273.772</td>
<td>199.432</td>
<td>111,1</td>
<td>27,2</td>
</tr>
<tr>
<td>General Surgery</td>
<td>327.936</td>
<td>235.835</td>
<td>131,4</td>
<td>28,1</td>
</tr>
<tr>
<td>Cardiology</td>
<td>471.354</td>
<td>249.220</td>
<td>138,9</td>
<td>47,1</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>358.633</td>
<td>262.638</td>
<td>146,3</td>
<td>26,8</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>347.526</td>
<td>279.551</td>
<td>155,8</td>
<td>19,6</td>
</tr>
<tr>
<td>Radiology</td>
<td>913.014</td>
<td>338.378</td>
<td>188,6</td>
<td>62,9</td>
</tr>
<tr>
<td>Clinical Biology</td>
<td>1,914.541</td>
<td>355.103</td>
<td>197,9</td>
<td>81,5</td>
</tr>
<tr>
<td>Nephrology Dialysis</td>
<td>1,041.425</td>
<td>425.505</td>
<td>237,1</td>
<td>59,1</td>
</tr>
</tbody>
</table>

GHIMD = Annual Gross Hospital Income Minus the Deductions
AGPI = Annual Gross Physician Income
\(^1\) € / FTE
\(^2\) Paediatrics = 100 %

\(^3\) The corrected income refers to the income of the hospital minus the retrocession.

\(^4\) We note that the presentation of the average GHIMD in percentages does not imply that an income of 100% is the adequate and equitable level of physician income.
From an international point of view this financial relationship can be described as highly specific (or even unique). Of course the cartography of the health landscape undoubtedly differs to a large extent between countries. This section of the introduction makes a brief comparison with other developed countries. The selection of countries is limited to those countries included in the Euro-DRG report (Busse, Geissler, Quentin, & Wiiley, 2011) which was recently synthesized and studied by the KCE (Van De Voorde, Gerkens, Van den Heede & Swartenbroekx, 2013).

When hospital finance is compared across countries an important parallel in the hospital payment frameworks is present. Since the beginning of the nineties an increasing number of European countries have made the decision to base hospital payments on the case-mix (i.e. the number and type of pathologies) of the hospital. More precisely some variant of the Diagnosis Related Group (DRG) method is applied implying that hospitals are paid the same amount per case belonging to a certain DRG with similar clinical characteristics and similar patterns of resource use. Several objectives for the introduction of the DRG-system have been stated by official bodies (table 1.3).

**Table 1.3: Objectives of DRG-based hospital payments (Van De Voorde et al., 2012)**

<table>
<thead>
<tr>
<th>Objective</th>
<th>England</th>
<th>France</th>
<th>Germany</th>
<th>The Netherlands</th>
<th>U.S. Medicare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase efficiency</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Increase productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Increase activity</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairness between hospitals</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transparency in financing</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance innovation</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve quality</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce excess capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Increase competition between hospitals</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Cost Containment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
One major difference between countries is the presence or absence of the dual split in payment between physician and hospital. Therefore the physician statute (i.e. salaried or self-employed), the associated financial incentives (e.g. lump-sum payments or fee-for-service) and the financial relationship between physician and hospital (i.e. the need for supplementary financial agreements) differs to a larger extent. Table 1.4 provides an overview.

In England, Germany and non-profit hospitals in France the medical specialists are salaried and the remuneration of their activities is included in the DRG payments. In contrast in the Medicare program of the U.S. and for-profit hospitals in France the medical specialists are paid separately from DRG payments and on a fee-for-service basis. In the Netherlands the remuneration has changes several times in the last decade. Both statutes (salaried and self-employed) exists. Interestingly in case of the self-employed physicians the remuneration has been subject to successive reforms which illustrate the search for aligning the incentives of hospital (management) and medical specialists induced by the payment system. From 2015 onwards integrated prices for hospital and medical specialists will be introduced.

**Table 1.4: Remuneration of medical specialists in five countries (Van De Voorde et al., 2012)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Remuneration Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>Salaried</td>
</tr>
<tr>
<td>France</td>
<td>Public and private non-profit hospitals: salaried</td>
</tr>
<tr>
<td></td>
<td>Private for-profit hospitals: fee-for-service</td>
</tr>
<tr>
<td></td>
<td>- Professional component</td>
</tr>
<tr>
<td></td>
<td>- Practice cost component</td>
</tr>
<tr>
<td>Germany</td>
<td>Salaried</td>
</tr>
<tr>
<td></td>
<td>Private fees for private medical treatments</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Salaried</td>
</tr>
<tr>
<td></td>
<td>Self-employed</td>
</tr>
<tr>
<td></td>
<td>- Produced Diagnosis Treatment Combination( DBC) with normative hourly tariff and time</td>
</tr>
<tr>
<td>U.S. Medicare</td>
<td>Fee-for-service</td>
</tr>
<tr>
<td></td>
<td>- Professional component</td>
</tr>
<tr>
<td></td>
<td>- Practice cost component</td>
</tr>
<tr>
<td></td>
<td>- Malpractice component (insurance premiums)</td>
</tr>
</tbody>
</table>
4. Problem Definition

From a managerial point of view the professional background of physicians is particularly challenging. More precisely, the highly specific body of knowledge and skills required to practice medicine and the legal and financial framework described in the previous paragraphs imply that the generic and dominant management and organization paradigm based on formal authority and the associated scalar chain cannot be applied to hospital-physician relationships (Lega & DePietro, 2005). However physician have a major impact on hospital performance.

First, medical care lies at the heart of the activities of a hospital and other processes are predominantly organized around the medical doctor and his or her patient (i.e. nursing care, administrative care). Therefore, by making (partly independent) clinical decisions he or she puts a lot of other processes in motion and consequently has considerable control over the hospitals’ resources. In addition physicians exert great influence over which products and services they will use for their patients and frequently determine from which vendors they will order them (Burns, Housman, Booth, & Koenig, 2009). Consequently, empirical research suggests that the quality of the interactions with physicians affects hospitals’ ability to contain costs, enhance their financial performance and improve the quality of provide care and service delivery (Burns & Muller, 2008).

Second, physicians play a central important role in shaping the increasingly competitive environment in which hospitals operate. First, in response to financial pressures, hospitals attempt to realize economies of scale and adopt strategies dedicated to increase the flow of patients into the hospital. The primary strategy has been described as a ‘medical arms race’ in which hospitals compete by increasing their share of physicians who admit patients to the hospital (Berenson, Bodenheimer, & Pham, 2006). In this sense hospital competition for patients and market share occurs on the physician level. At the same time, hospitals are confronted with a chronic shortage of (certain) physician-specialists and face an exponential increase in the demand of care (Kirch, Mackenzie, & Dill, 2012). Furthermore, while hospitals traditionally faced only competition from other hospitals, today’s health care delivery is characterized by the proliferation of physician-owned outpatient facilities that can
jeopardize hospitals’ survival by directly competing with hospitals (Al-Amin & Housman, 2012)\(^5\).

Internationally, hospitals are evolving to accountable organizations, charged with the development of internal organizations where quality of care and efficiency of care delivery is pursued. In the past physicians have been relatively independent of hospitals and have used them as workshops in which to carry out their professional services. Both physician and hospital had compatible incentives to increase the volume of care using the latest technology, while maximizing the professional autonomy of the physician (Pauly & Redisch, 1973). This professional autonomy was reinforced by the financing system, by which physicians were paid on a fee-for-service basis and hospitals were paid on the basis of costs incurred (Harris, Hicks, & Kelly, 1992). However, the financial relationship between hospitals and physicians has changed significantly. In developed countries, hospitals are confronted with increased financial accountability for the delivered care, introduced by prospective payment and sometimes by forms of managed competition (Kirkman-Liff, Huijsman, van der Grinten, & Brink, 1997; Schut & van Doorslaer, 1999). Furthermore, recognition that the health care system suffers from serious gaps in quality has stimulated a broad array of public-, and private-sector initiatives to improve performance (Ryan, 2009). Value based purchasing (pay for quality) and public reporting of hospital quality have become the locus of international debate and have emerged as the most widely advocated strategies (Lindenauer et al., 2007). As a result, hospitals are no longer insulated from the cost consequences of the provided services and the historical separation of administrative and clinical decision making has been eliminated (Goes & Zhan, 1995). In light of this changed payment framework, conflicting incentives between physicians and hospitals are often cited as a major obstacle to effective collaboration (Goldsmith, 2007; Mark, Evans, Schur, & Guterman, 1998).

\(^5\) For an in-depth overview of physician-owned specialized hospitals we refer to our paper entitled ‘Physician-owned specialized facilities: focused factories or destructive competition?: a systematic review.’ (De Regge, Trybou, Gemmel, Duyck & Annemans, 2013).
In conclusion, physician-specialists are powerful professionals practicing at a hospital. They are predominantly self-employed, have different financial incentives than the hospital in which they practice and they contribute financially to the hospital. In addition, they hold a central important operational and strategic position in which they have a major impact on hospital performance. This unique setting warrants a dedicated research endeavor, the more so because physicians, as professionals, have a more complex set of motives that underlie their attitudes and behaviour (Kunz & Pfaff, 2002).

In a Belgian context Sermeus (2006: 163) puts it as follows: “Hospital management is confronted with the not-enviable situation in which a structural deficient hospital budget is present and a significant financial contribution of physician-specialists is needed. This explains the strong position of the physicians in shaping hospital policy. Imagine a university or an airline company whose operating budget is partly funded by its professors or pilots. Even the most seasoned manager would turn down this offer. Similarly, professors and pilots would not be willing to cover operational losses of the company in which they work.”
Gouberman and Mintzberg (2001b; 57) clarify that “hospitals rupture themselves along two lines (as shown in Figure 1.3). A horizontal cleavage separates those who operate clinically, down into the system (physicians and nurses), from those who do not (managers and trustees), but instead work up out of it, creating the "great divide" in health care. Underneath are those who respond to professional requirements as well as technological imperatives, while above are those sensitive to the needs for fiscal control. And a vertical cleavage separates those intimately connected to the institution, such as the nurses and the managers on one side, from those involved but not so formally committed, the doctors and the trustees, on the other.”

While at first sight both hospital and physician clearly have the same goals (improve the health of patients), a closer look shows that the interests of the two parties overlap only partly and thus are not fully aligned (Burns & Muller, 2008). In this dissertation alignment refers to the degree to which physicians and hospitals share the same goals, objectives and strategies and work towards their accomplishment. It is important to note that in our view alignment and integration are not seen as an end in itself but rather as a means for improving cost-effective performance of secondary care and as a precondition for the creation of added value for patient and society.
5. Defining Physician Hospital Integration

To improve HPRs, increase alignment and thereby enhance hospital performance, hospitals have tried to ‘integrate’ with physicians. The generic concept of integration is defined as ‘the extent to which functions and activities are appropriately coordinated across operating units’ (Gillies, Shortell, Anderson, Mitchell, & Morgan, 1993). As such it is applied to the HPR to describe the processes used to intensify the relationship between physician and hospital and align interests. Different types of physician-hospital integration have been described and classified. Previous research stemming from the nineties has identified three types of integrative actions (Gillies et al. 1993; Shortell, Gillies, Anderson, Erickson, & Mitchell, 1996; Shortell et al., 2001). Although these types were initially conceptualized in the context of physician linkages to health plans, it has been demonstrated empirically that the categories of integrative actions also apply to the hospital setting (Burns & Muller, 2008; Eposto, 2004).

Firstly, physician-system integration is the extent to which physicians are economically linked to a system, use its facilities and services and participate actively in its planning, management and governance. Secondly, functional integration is defined as the extent to which key support functions and activities are coordinated across operating units to add the greatest overall value to the system. Thirdly, clinical integration encompasses hospitals’ structures and systems to coordinate patient services across people, functions, activities and sites over time (Gillies et al., 1993). These researchers have argued that clinical integration is the apex of the three and depends on the development of successful implementation of the first two.

Based on the findings of these researchers and drawing on academic literature, Burns and Muller (2008) recently proposed an improved classification of hospitals’ efforts to align their medical staff. Besides clinical integration, these researchers make a distinction between ‘economic integration’ referring to the contractual, monetary relationship between physician and hospital and ‘noneconomic integration’ emphasizing the cooperative structure of their relationship. Specifically, noneconomic integration is described as the hospital’s efforts to enlist physicians by making their facilities more attractive and accessible, their decision-making processes more participative and responsive and their staffing better trained. These efforts are rather heterogeneous in nature but all focus on improving day-to-

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6 The link between alignment and integration is further clarified in chapter 2.
day working relationships of hospitals with their physicians (Trybou, Gemmel, & Annemans, 2011). Economic integration on the other hand encompasses hospitals’ provision of monetary payments to physicians to provide, manage and/or improve clinical services and to perform organizational activities. By extension this includes the economic or financial relationship between physician and hospital. Besides direct payments of hospitals to physicians this includes cost settlements and other financial agreements between physician and hospital (Trybou, Gemmel, & Annemans, 2010).

To conclude, physician-hospital integration strategies can be used to increase physician-hospital alignment and are conceptualized into three different types:

- Noneconomic integration: Integration of physicians by improving the hospital work environment.
- Economic integration: Integration and alignment of financial incentives.
- Clinical integration: Integration of patient care.

In this thesis we focus on the first two dimensions in relation to physician-hospital alignment. Since it has been argued that clinical integration is the apex of the three and dependents on the development and successful execution of the other two (Burns & Muller, 2008; Gillies, Shortell, Anderson, Mitchell, & Morgan, 1993). Hence we argue that clinical integration is an outcome of physician-hospital alignment. More precisely when physicians and hospitals share the same mission and vision, goals and objectives, and strategies and work toward their accomplishment they will integrate from a clinical perspective (Shortell et al., 2001).

We apply two theoretical lenses to guide our study framework. On the one hand we build on agency theory to increase our understanding of the economic aspects. On the other hand we build on social exchange theory to study the non-economic aspects. In the following paragraphs we provide an overview of the central concepts of these theories.
6. Theoretical Background

6.1 Agency theory

Hospitals and physicians have been working together for decades in providing secondary healthcare services to the community. While physicians provide and coordinate the care, the hospital provides the resources in which that care can be managed and delivered. The concepts of agency theory have been found highly applicable in discussing healthcare (Smith, Stepan, Valdamis & Verheyen, 1997; Ryan, 2009). Specifically, agency theory helps to understand and manage the cooperative structure of HPRs (Pontes, 1995; Trybou et al., 2011). The agency dilemma is present when one party delegates work to another. The ‘principal’ invokes an ‘agent’ with specialized skills or knowledge to perform the task in question (Jensen & Meckling, 1976; Eisenhardt, 1989). An agency problem occurs when the agent does not have exactly the same objectives or motivations as the principal and does not necessarily act in the best interest of the principal. The central concern of the theory is how alignment can be realized and thus how the principal can best motivate the agent to perform as the principal would prefer (Sappington, 1991). The focus of the theory is on the problem of cooperative effort or the agent’s opportunism (and the associated moral hazard) and especially on how to determine the most efficient contractual relationship considering different attributes. Opportunism supposes that agents may be seeking to serve their self-interest (in contrast to serving the interests of the organisation) and introduces the problem of moral hazard. If the principal cannot determine accurately if the agent has behaved appropriately (due to information or knowledge asymmetry) and given the self-interest of the agent, the agent may or may not behave as agreed upon. Moral hazard refers to lack of effort on the part of the agent. The argument here is that the agent may not put forth the agreed-upon effort which is called shirking (Eisenhardt, 1989).

Within the classical agency theory, the central attributes include risk and information asymmetry (Eisenhardt, 1989). First, the issue of risk arises because outcomes are only partly a function of behaviours and are characterized by uncontrollable variation. The resulting uncertainty introduces risk that must be borne by someone. Second, information asymmetry refers to imperfect information of the principal with respect to the agent’s actions. However, to understand and capture the complexity of the relationship of hospitals with their medical staff fully, the classic agency theory should be adjusted for principal-
Professional agency relationships have additional complexity because they are characterized by knowledge asymmetry, which is distinctly different from information asymmetry and compounds the problem of not being able to judge the behaviour of the professional agent (Sharma, 1997). As such, hospital management has limited ability to determine the appropriateness and the cost-effectiveness of the decisions made by the clinicians (Pontes, 1995). Figure 1.4 provides a schematic overview.

6.2 Hospital-Physician Relationships through the lens of Social Exchange

While the economic agency approach is valuable in order to increase insight into the complex financial and contractual issues of HPRs, this viewpoint can be criticized because it assumes that human motivation is primarily based on self-interest and ignores the fact that economic transactions are embedded in social relationships (Ghoshal & Moran, 1996; Granovetter, 1985). They fail to recognize that physicians, as professionals, have a more complex set of motives that underlie their behavior (Kunz & Pfaff, 2002). Besides economic rewards, intrinsic rewards provided by hospitals will fulfill for example socio-emotional needs. As such, the working experience is made up of a complex array of features (Edwards, 2009) and relational norms can complement the economic approaches (Vandaele, Rangarajan, Gemmel, & Lievens, 2007). Relational norms are those norms that develop within a relationship and are defined as the bilateral expectations that exchange partners will act in ways that assist each other during the course of the relationship (Joshi and
Campbell, 2003). This type of mutual and cooperative interchange (the reciprocity principle described below) is essential to build the necessary trust. Moreover, contracting in a healthcare setting poses particular challenges due to complexity of the services, the impossibility of drafting complete contracts (McLean, 1989) and the asymmetry of information and knowledge which makes it impossible to monitor and evaluate the decisions made by the clinicians (Pontes, 1995; Sharma, 1997). These aspects highlight the importance of noneconomic factors that influence and characterize the hospital-physician relationship.

There has been a plethora of research about the importance of social relationships within organizations over the last 20 years. The social exchange theory is arguably one of the fundamental paradigms in understanding behaviour in organizations (Cropanzano & Mitchell, 2005). According to this theory, organizational members tend to reciprocate the treatment they perceive (Blau, 1964; Gouldner, 1960). This research has led to a large body of empirical studies that demonstrate the explanatory power of social exchange to a variety of work-related attitudinal and behavioural outcomes (Coylo-Shapiro & Conway, 2005). Moreover, it has been shown repeatedly and consistently that individuals seek to have a fair and balanced exchange relationship, described as the norm of reciprocity (Conway & Briner, 2005). This principle can be described as the social expectation that people will respond in a positive way to positive actions and in a negative way to negative actions (Gouldner, 1960; Blau, 1964). However, empirical evidence demonstrates that employee-organization dynamics are more complex than has been acknowledged previously and professionals do not adhere to reciprocity principles in a straightforward fashion as originally conceived to be (Trybou, Gemmel, Pauwels, Hennick, & Clays, 2013). Researchers have increasingly adopted social exchange as a theoretical foundation for understanding exchange relationships between individuals and the relationship between individuals with their organizations (Coyle-Shapiro & Conway, 2005). In this respect, these social relationships could have important implications on hospitals’ ability to attract, retain and motivate scarce medical professionals.

Scholars have often drawn upon two exchange-based constructs to explain organizationally desired attitudes and behaviours: the psychological contract and leader-member exchange (Trybou, De Pourcq, Paeshuyse, & Gemmel, 2013).

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7 We note that previous research has focused on the generic employee-organization relationship. Accordingly the definitions and descriptions in previous research refer to ‘employees’. However, since we aim at applying and testing these concepts on the HPR and
6.3 Psychological Contract theory

Within organizational psychology, sociology and management research, the psychological contract theory has gained prominence as the dominant framework for understanding the ubiquitous employee–organization relationship. It is therefore considered one of the most influential theories to understand employees’ organizational attitudes and behavior (Cropanzano & Mitchell, 2005). The psychological contract consists of the individual’s belief regarding terms and conditions of the exchange agreement between the individual and his or her organization. It refers to the way the working relationship is interpreted, understood and enacted by individuals at the interface between themselves and their organization. Key issues include the belief that explicit and implicit promises have been made and services are offered in exchange, binding the parties to some set of reciprocal obligations (Rousseau, 1989). Psychological contract research has highlighted that organizational members often perceive that their organization has failed to fulfill some aspects of their psychological contract adequately, leading to perceptions of breach of the psychological contract. This vital component of the theory refers to the cognition that one’s organization has failed to meet one or more obligations within one’s psychological contract in a manner commensurate with one’s psychological contributions (Morrison & Robinson, 1997). Importantly It has been shown that in the case of physicians ideological pluralism is present within the psychological contract. Specifically within the psychological contract of physicians a distinction can be made between a professional and an administrative dimension. This is induced by differences between models of organizing that are based on administrative/organizational (management) principles and those models that are based on professional/occupational (medicine) organizing principles which converge in a hospital setting (Bunderson, Lofstrom, & van de Ven, 2000; Bunderson, 2001).

Belgian physicians are primarily self-employed we chose to refer to ‘organizational members’.
6.4 Leader-member exchange theory

In general it has been argued that it is not possible to study the employee relationship adequately without taking into account the role of the immediate leader. He or she is a representative of the organization and a purveyor of resources and support (Liden, Bauer, & Erdogan, 2004). Leader-member exchange (LMX) theory is one of the main theoretical approaches to the study of dyadic ‘leader-subordinate relationships’. The theoretical concept, supported by empirical results, stems from the assumption that leaders form qualitatively different relationships with different subordinates. Therefore, LMX captures the quality of the interpersonal relationship that evolves between organizational members and immediate supervisor within a formal organization (Graen & Scandura, 1987). In this study we included the quality of the relationship between physician and head physician (Chief Medical Officer).
7. Outline of this thesis

The different chapters of this thesis present research and reflections on important blind spots as identified in the academic literature on hospital-physician relationships. Each chapter is presented as a standalone paper which has been published, accepted or submitted for publication in peer-reviewed journals. Therefore, some overlap between the chapters is inevitable. The published and submitted articles are adjusted to meet journal guidelines.

We started this research effort by developing an integrative conceptual framework (figure 1.5) of physician-hospital alignment (chapter 2). Building on previous research and by theoretical reasoning the relationships between economic, noneconomic integration and physician-hospital alignment were studied. To study the economic dimension we applied the central agency concept of risk to the context of HPRs. This enabled us to increase insight into (a) the relationship between the payment framework and both economic and noneconomic physician-hospital integration and (b) economic integration between physician and hospital as a means to align financial incentives. To study the latter we applied the theoretical lens of social exchange theory. Specifically the central concepts of reciprocity and organizational trust were applied to noneconomic integration. The former (reciprocity) was applied to clarify the link between noneconomic integration and physician-hospital alignment. The latter (trust) was applied to conceptualize the interconnection between noneconomic integration and economic integration.
Figure 1.5: An integrative framework of physician-hospital alignment

Chapter three considers a conceptual model and a literature review on provider accountability as a driving force towards physician-hospital integration. By theoretical reasoning the paper proposes a conceptual framework to study the distribution of financial risk within secondary care and evaluates the available evidence on provider financial risk bearing and physician-hospital integration.

Chapter four reports on a qualitative study of physician-hospital contracting. Both formal (economic contracts) and informal (relational) exchange are considered.

In chapter five the content of the psychological contract of physician-specialists is studied by a qualitative study. Physicians and hospital executives were interviewed to identify mutual obligations and areas of ambiguity between both views.

Chapter six focuses on perceived economic and noneconomic exchange. The impact of perceived justice of the (economic) contract by physicians and perceptions of (noneconomic) psychological contract breach on organizational attitudes and organizational citizenship behaviors are investigated. In addition the interconnection with social exchange is investigated. The moderating effect of the quality of exchange with the head physician and organizational trust is determined.

Reflections on the results and methodological issues of the different studies are put in a broader perspective in chapter seven, the general discussion.
From a methodological point of view this thesis comprises three consecutive phases, each characterized by a dedicated research approach (theoretical reasoning, qualitative and quantitative research). Each phase builds further on the insights developed in the previous phase. As such this can be considered as the road-map of our research endeavor. The scope of each phase evolves from a broad, holistic view of the HPR to a more narrow approximation of important issues. Figure 1.6 provides an overview.

**Figure 1.6:** Overview of the consecutive research phases
The central aims of this thesis were:

- To increase our conceptual understanding of HPRs:
  - The role of provider financial risk bearing in physician-hospital integration.
  - The financial relationship of physicians and the hospital they practice at.
  - The interrelationship between economic and noneconomic integration.

- To develop an in-depth understanding of the complexity of HPRs:
  - Understand the lived experience of mutual obligations and areas of ambiguity by physicians and hospital executives.
  - Untying administrative and professional dimensions of the psychological contract of physicians.
  - Increase insight into economic and relational aspects of Physician-Hospital Contracting.

- To determine
  - The importance of the different dimensions of the psychological contract of physicians (professional and administrative) to physicians’ organizational attitudes and organizational citizenship behaviors.
  - The importance of distributive and procedural justice to physicians’ organizational attitudes and organizational citizenship behaviors.
  - The moderating effects of the quality of exchange with the head physician (CMO) and organizational trust on the relationship between (professional and administrative) psychological contract breach and (distributive and procedural) organizational justice and physicians’ organizational attitudes and organizational citizenship behaviors.
8. References


Chapter 2.
An integrative framework of physician-hospital Alignment

Abstract

Background
Alignment between physicians and hospitals is of major importance to the health care sector. Two distinct approaches to align the medical staff with the hospital have characterized previous research. The first approach, economic integration, is rooted in the economic literature, in which alignment is realized by financial means. The second approach, noneconomic integration, represents a sociological perspective emphasizing the cooperative nature of their relationship.

Discussion
Empirical studies and management theory (agency theory and social exchange theory) are used to increase holistic understanding of physician hospital alignment. On the one hand, noneconomic integration is identified as a means to realize a cooperative relationship. On the other hand, economic integration is studied as a way to align financial incentives. The framework is developed around two key antecedent factors which play an important role in aligning the medical staff. First, provider financial risk bearing is identified as a driving force towards closer integration. Second, organizational trust is believed to be important in explaining the causal relation between noneconomic and economic integration.

Summary
Hospital financial risk bearing creates a greater need for closer cooperation with the medical staff and alignment of financial incentives. Noneconomic integration lies at the very basis of alignment. It contributes directly to alignment through the norm of reciprocity and indirectly by building trust with the medical staff, laying the foundation for alignment of financial incentives.
1. Background

The relationship between the hospital and its medical staff is an important area of academic research and a main concern of hospital executives, given the impact on quality of provided care (Cortese & Smoldt, 2007), hospitals' financial success (Goes & Zhan, 1995) and cost-effective healthcare delivery (Ciliberto & Dranove, 2006). Internationally, hospitals have evolved from a physician workshop to accountable organizations, charged with the development of internal organizations where quality and cost effectiveness go hand in hand (Klopper-Kes, Siesling, Meerdinck, Wilderom, & van Harten, 2010). Consequently, increased cooperation and alignment between hospitals and their physicians have become paramount to enhance hospital performance. However, conflicting incentives between physicians and hospitals are often cited as a major obstacle to effective collaboration and threaten the long-standing assumption that physicians and hospitals share common interests (Mark, Evans, Schur, & Guterman, 1998; Goldsmith, 2007). Prior research has offered a number of important insights into alignment of the medical staff with the goals and objectives of the hospital. Three approaches can be identified. The first approach is rooted in the economic literature, building on the model of the homo economicus, in which alignment is realized by 'hard' financial means (economic integration). The second represents a more 'soft' sociological perspective, emphasizing the cooperative nature of their relationship (noneconomic integration). The third focuses on the clinical dimension of their relation, the coordination of patient care (clinical integration). In this paper we focus primarily on the first (economic integration) and second category (noneconomic integration). It has been argued that clinical integration is the apex of the three and dependents on the development and successful execution of the other two (Burns & Muller, 2008; Gillies, Shortell, Anderson, Mitchell, & Morgan, 1993). As a result we argue that clinical integration is an outcome of alignment, defined as the degree to which physicians and hospitals share the same mission and vision, goals and objectives and strategies and work toward their accomplishment (Shortell et al., 2001).

In this paper we focus on the importance of an effective, high quality relationship between hospitals and their medical staff resulting in increased alignment between both. Up to now there has not been an attempt to integrate the sociological perspective with the economic insights. We attempt to address this knowledge gap by developing a conceptual framework
resulting in a practical and holistic understanding of physician-hospital alignment. The model (as depicted in figure 2.1) proposes relationships between important antecedents and physician hospital integration. First, provider financial risk bearing is identified as the main reason for increased integration between hospitals and their medical staff. However, because physicians mostly operate in a group setting, physician's individual financial risk bearing is pooled at the group level. Consequently it is important to incorporate physician financial risk bearing at the individual - and the group level. Furthermore, we argue that both integration strategies should be seen as complementary, rather than isolated strategies as there is an anticipated causal effect between both. As such, this paper proceeds previous work and deals with Granovetter's embeddedness paradigm that an inquiry focusing solely on economic or social aspects is not an accurate view (Granovetter, 1985). Accordingly, next to risk-antecedent, representing the economic perspective, the sociological perspective - represented by trust - has been included when investigating physician-hospital alignment. More specifically, we argue that by building trust through noneconomic integration strategies, increased financial risk sharing between both can be realized.

![Figure 2.1: An integrative model of physician hospital alignment.](image)
However, it should be noted that when alignment is considered as a development process in a longitudinal sense, outcomes can cause feedback and have a recursive relationship with the integration strategies. More specifically, when considering the model in a longitudinal sense we note that i) social exchange is rooted within trusting relations, ii) economic integration has an influence on hospital and physician risk bearing and ii) physician-hospital alignment has an impact on the willingness of physicians and hospital to integrate. Therefore, we note that this model is a partial model and cannot represent all possible antecedents and consequences of physician hospital integration.

2. Discussion

2.1 Theoretical background

Several theories have been developed that offer useful insights into the complex, interdependent relationship between hospitals and physicians. This paper draws on agency theory (Eisenhardt, 1989) and social exchange theory (Gouldner, 1960) to increase understanding of the mechanisms used to align their interests. The principal goal of agency theory is to determine the most efficient contract which is considered a highly relevant aspect of our research problem. Specifically, agency theory describes the dilemma present when a principal engages another party, the agent, to perform a service. The agent does not have exactly the same objectives or motivations as the principal and does not necessarily act in the best interest of the principal. The principal goal of agency theory is to determine the most efficient contract using a unique framework based on outcome uncertainty, the associated financial risk and information asymmetry. Consequently, the principles of agency theory provide a useful framework to study economic integration strategies (McLean, 1989; Pontes, 1995). Although agency theory can be described as one of the most influential and widely used theories to study problems of relationships with a cooperative structure, additional theories can help to capture the greater complexity and improve understanding (Eisenhardt, 1989). More specifically, in case of physician hospital alignment, the importance of noneconomic integration strategies is difficult to capture with the agency theory framework. We argue that social exchange theory can be a very useful perspective for the study of these noneconomic integration strategies. According to this theory organizational members tend to reciprocate beneficial treatment they receive with positive work-related behaviour and tend to reciprocate detrimental treatment they receive with negative work-
related behaviour (Gouldner, 1960; Blau, 1964). In this sense, a good underlying cooperative relationship with the medical staff leads to increased alignment.

2.2 The need for alignment

Internationally, hospitals are confronted with continuous pressures to contain costs and simultaneously improve health care quality. As a consequence, the relationship between hospitals and their medical staff has changed significantly over the past several decades. Traditionally physicians have been relatively independent of hospitals and have used them as workshops in which they carry out their professional services. The Hospital-Physician Relationship (HPR) was characterized by unique, symbiotic interdependence in which the two parties had compatible incentives to increase the volume of care using the latest technology, while maximizing the professional autonomy of the physician (Pauly & Redisch, 1973). This professional autonomy was reinforced by the fragmented financing system, which ignored the interrelatedness of the actions of physicians and hospitals in the treatment of their patients. Physicians were paid on a fee-for-service basis and hospitals were paid on the basis of costs incurred (Harris, Hicks, & Kelly, 1992). However, the financial relationship between hospitals and physicians has changed. Not only have margins declined due to increased complexity, rising costs and more restrictive reimbursement schemes (Cardinaels, Roodhooft, & van Herck, 2004), providers are also confronted with increased financial accountability for the delivered care, introduced by methods of prospective payment and forms of managed competition (Kirkman-Liff, Huijsman, van der Grinten, & Brick, 1997; Schut & van Doorslaer, 1999). Furthermore, recognition that the health care system suffers from serious gaps in quality (i.e. medical errors, unnecessary differences in practice patterns and unintended variation in outcomes) has stimulated a broad array of public-, and private-sector initiatives to improve performance (Ryan, 2009). Accreditation, public reporting of hospital quality and value based purchasing (i.e. pay for quality) have become the locus of debate and have emerged as widely advocated strategies (Lindenauer et al., 2007). As a result, hospitals and physicians are no longer insulated from the financial consequences of their decisions. Finally, next to the degree of provider financial risk installed by the base compensation scheme and regulatory framework, the degree of risk assumed by the hospital also depends on the alignment of incentives with the medical staff (Eposto, 2004). Given the physician autonomy in medical decision making, the medical staff controls
many patient care decisions that influence hospital costs and quality and by extension hospital financial performance. Consequently the degree of risk assumed by the hospital also depends on the risk assumed by the medical staff. More specifically, in the situations where the hospital bears a certain degree of financial risk (e.g. per case payment) and the medical staff's financial responsibility for their actions remains obsolete or limited (e.g. fee-for-service), the hospital's risk is considerably increased.

2.3 The medical group level

Previous research on physician incentives identified the size and compensation structure of the medical group as an important matter to the risk distribution problem inherent to health care delivery. The group level creates an important possibility to limit individual financial risk by pooling the risk within the group. This results in 'risk pools' which can be described as a number of physicians that are paid collectively and thus share financial risk for the cost of patient care (Gold, 1999). As the individual physicians are sometimes paid on a different basis than the group, a risk adjustment can be made at the individual practitioner level. Therefore, risk assumption may operate at different levels in organizational settings, the first via a group effect and the latter at the individual physician level (Conrad et al., 2002; Kralewski, Wingert, Knutson, & Johnson, 1999). We argue that this group level has an important buffering effect in aligning financial incentives between the hospital and the medical staff. In a similar vein, the recent discussion in the US about the role of accountable care organizations in future health care delivery reflects our argument. This new type of organization is built around providers and differs from historical managed care organizations (primarily health maintenance organizations). Rather than holding insurers at full financial risk for the cost of care these organizations focus on provider financial risk bearing at the group level (Gold, 2010).
2.4 Noneconomic Integration

Theoretically rooted in social exchange theory, noneconomic integration strategies aim at optimizing the working relationship between the hospital and the medical staff. Research focusing on these strategies suggests that more emphasis should be placed on the underlying cooperative aspects of their relationship instead of the contractual, economic ties (Shortell et al., 2001). Within previous research, a distinction can be drawn between administrative linkages related to shared decision making and operational linkages focusing on supporting physicians in practicing medicine. First, it has been argued that physician involvement in planning and decision making holds a great promise for aligning hospital and physician interests (Gregory, 1992). This form of noneconomic integration is believed to increase their fiduciary responsibility and exposure to tough decisions, both of which are likely to increase physician sensitivity to hospital performance and the creation of a more cooperative decision-making environment (Smith, Reid, & Piland, 1990). Second, aiming at the provision of value-added contributions to the physician(group), operational support can be a valuable instrument to increase alignment. It allows the physicians to operate more effectively and efficiently in a complex and changing healthcare environment in which they have to deal with a myriad of demands. These operational linkages create true interdependence by providing valued resources to the physician group, which results in increased organizational commitment from the physicians receiving these resources (Alexander et al., 2001a).

2.5 Economic Integration

Building further on the agency framework, we now concentrate on shared risk and gains in order to realize alignment. Within previous research, the question how financial incentives affect physician decision-making has been frequently addressed and it is widely believed that the method of payment of physicians affects their clinical and professional behaviour (Shafrin, 2010). However, we argue that the analysis of financial incentives cannot be separated from the base compensation scheme by which the providers are paid. This base compensation scheme creates its own incentives, which the supplemental economic incentives reinforce or counteract to realize increased alignment (Magnus, 1999). Consequently, the effect and use of economic incentives varies according to this base
compensation. Given the variance in base compensation, this makes a review and interpretation of the findings about the effect of economic integration strategies difficult. We respond to this challenge by incorporating the macro level into the model by the risk antecedent. Based on agency theory, we argue that the base compensation scheme results in a varying risk distribution to the hospital and physician, on top of which supplementary economic alignment can be realized by a financial agreement (e.g. gainsharing and physician ownership).

2.6 Organizational Trust

Next to risk, organizational trust lies at the heart of the management field and is vital in examining the principal-professional exchange (Sharma, 1997). In case of the hospital physician relationship, it is considered to be a social antecedent and critical concern of both parties (Shortell et al. 2001). Trust can be described as the willingness to be vulnerable to actions of another party irrespective of the ability to monitor or control that other party, making the risk antecedent, the driving force behind our conceptual framework, an essential component of trust (Schoorman, Mayer, & Davis, 2007; Mayer, Davis, & Schoorman, 1995). Following agency theory, economic integration strategies give the possibility to align the interests of the physician by means of a contract. However, physicians may see little value added from their economic ties to hospitals. They even may view such connections as burdensome, if not antithetical to the traditional values of autonomy and freedom of external control (Alexander et al., 2001b). Therefore next to the assessment of the risk by weighing the likelihood of positive and negative outcomes that might occur, trust can be considered crucial in intensifying the economic ties with the medical staff. In our model, we conceptualize non-economic integration strategies as a complementary management approach, primarily rooted in social exchange theory. Trust has emerged as a central concept within this theory and it has consistently been found as an outcome of co-operative behaviour (Zhao, Wayne, Glibkowskii, & Bravo, 2007). Therefore, we argue that by including trust as an antecedent to alignment we increase the explanatory power of our model significantly.
3. Summary

The purpose of this article was to rethink physician hospital alignment. It extends current research by developing a conceptual framework incorporating both economic and noneconomic alignment and the causal relationship between both. This conceptual framework synthesizes insights from the literature and provides a holistic understanding of the interdependent relationship between hospitals and their medical staff. In doing so, this study challenges scholars and practitioners to consider the complexity inherent to the alignment problem more holistically. Additionally it may provide guidance for future research from a variety of different disciplines.

Our discussion has shown that hospitals are charged with developing internal organizations where quality and cost effectiveness are at the center of their attention. Consequently the historical separation of administrative and clinical decision making is eliminated. Unfortunately, conflicting incentives between physicians and hospitals are often a major obstacle to effective collaboration and alignment of the medical staff with the hospital objectives and goals. In our paper we argue that noneconomic integration lies at the very basis of alignment. It contributes directly to alignment through the norm of reciprocity and indirectly by building trust with the medical staff, laying the foundation for alignment of financial incentives.
4. References


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Chapter 3.

Abstract

**Background:** Research suggests that by increasing hospital and physician accountability for the delivered care physician-hospital integration can be achieved. However both accountability and integration have been measured in multiple ways. We performed a theory-based methodological review which is becoming increasingly recognized as important addition to conventional review methods.

**Methods:** This paper describes a methodological analysis of research papers identified in a systematic review of published evidence. Building on agency theory the central aim was to investigate how the concepts of provider accountability and physician-hospital integration have been measured.

**Results:** We identified three important aspects of provider financial risk bearing: risk shifting towards providers, risk pooling within physician groups and risk sharing between physicians and the hospital in which they practice. Our methodological analysis of previous research shows that previous studies have measured provider accountability in a fragmented way and have primarily concentrated on the prevalence of joint contracting between physicians and hospitals in a managed care environment. In addition previous research has largely focused on the formal structures of different physician-hospital arrangements as an indicator of physician-hospital integration.

**Conclusion:** This study highlights the need to examine the relationship between provider accountability and physician-hospital integration and confirms the gap between policy intend and the current available evidence. Our theoretical lens of agency theory used to evaluate this complex research problem provides additional insight and illuminates measurement issues when investigating the relationship between provider accountability and physician-hospital integration. However, the relationship between accountability and integration can at this time be supported merely on the basis of these theoretical insights and experience rather than empirical research. Future research should focus on the increased cooperation between hospital and physicians which ultimately leads to added value. Furthermore these studies should include an integrative view on provider accountability including not only risk shifting but also risk pooling and risk sharing.
1. Background

Hospitals and physicians lie at the heart of our healthcare delivery system. Both have been working together for years in providing secondary health services to the community. While physicians provide and coordinate the care, the hospital provides the resources in which that care can be managed and delivered. Consequently, it has been argued that the relationship between the medical specialist and the hospital has an influence on the quality of provided care, hospitals’ financial viability and cost-effectiveness of healthcare delivery (Trybou, Gemmel, & Annemans, 2011). Currently, many western countries are seeking ways to increase provider accountability. These efforts reflect stakeholders’ expectations of improving performance in response to two important evolutions. On the one hand, there is recognition that healthcare systems are fragmented and suffer from unexplained variability and gaps in quality of care (Institute of Medicine, 2001). On the other hand, rising healthcare expenditures are a global phenomenon and the share of the gross domestic product attributed to healthcare in developed countries is continuously increasing. This trend is likely to increase further, following the recession that became widespread since 2009 (OECD, 2012). In response to these concerns, healthcare policy debate focuses on introducing financial risk bearing at the provider level. As a result, the hospital sector faces the challenge of becoming more cost-effective in a challenging healthcare environment characterized by increased medical complexity, rising costs and declined margins (Cardinaels, Roodhooft, & van Herck, 2004). Moreover, the confluence of these forces makes it unlikely that hospitals or physicians will be able to meet these challenges without closer integration (Budetti et al., 2002). The generic concept of integration encompasses the extent to which functions and activities are appropriately coordinated across operating units (Gillies, Shortell, Anderson, Mitchell, & Morgan, 1993). Specifically, the increased cooperation varies in terms of the degree to which risk, governance, revenue, planning and management are shared (Burns & Thorpe, 1993). It is important that in this view, integration is not seen as an end in itself but rather as a means for improving cost-effective performance of secondary care and as a precondition for the creation of added value for the patient and society. The aim of this paper is to provide insight into the relationship between provider accountability and physician-hospital integration and assess the evidence base. Building on agency theory we developed a conceptual framework to increase understanding of the risk distribution within
secondary care delivery. We start by describing and analyzing the processes of ‘risk shifting’, ‘risk pooling’ and ‘integration’. We continue with a discussion of the methodological strengths and weaknesses of previous studies and formulate recommendations for further research.

2. Methods

2.1 Search Strategy

Electronic databases (Medline, CINAHL, Web of Science, EconLit and EBSCO) were searched in June 2013 for studies focusing on the relationship between provider financial risk bearing and physician-hospital integration by the development of key search terms. The final search pattern was: [(Salaries and Fringe Benefits OR Reimbursement OR Incentive OR Fees and Charges OR pay* OR incentive* OR compensation* OR reimbursement* OR financ* OR bonus* OR remunerat*) AND (hospital AND physician AND (integration OR relation* OR alignment))]. In addition, reference lists of all included papers were further examined and additional articles were retrieved. We restricted the studies eligible for inclusion to those published in peer-reviewed journals in English between January 1989 and June 2013. This time frame was selected because in this period new organizational arrangements with tighter affiliation between physicians and hospitals were initiated in the US as a response to managed care (Schut & Doorslaer, 1999). In the same period healthcare policy debate in European countries also concentrated on the pros and cons of introducing some form of ‘managed competition’ or ‘internal markets’ to enhance efficiency of healthcare delivery and to contain costs (Casalino & Robinson, 2003). A first selection was made on title and abstract. All key articles that were potentially useful to this review were identified. Afterwards, each article was fully read and judged on relevance. Finally the articles were narrowed down according to the inclusion and exclusion criteria. In total, 3064 studies were identified (204 duplicates) and ultimately nine studies which explicitly focused on the relationship between provider accountability and physician-hospital integration were included in this review.
Table 3.1: Search Strategy

Stage 1 - Bibliographical databases selected
- Medline, CINAHL, Web Of Science, EconLit and EBSCO

Stage 2 – Time frame
- We restricted the studies eligible for inclusion to those published between January 1989 and June 2013.
- This time frame was selected because in this period new organizational arrangements with tighter affiliation between physicians and hospitals were initiated in the US as a response to managed care and healthcare policy debate in European countries also concentrated on the pros and cons of introducing some form of ‘managed competition’ or ‘internal markets’.

Stage 3 – Search terms
- The search string used for coverage of databases was a combination of words related to the hospital physician relationship and provider financial risk bearing
  - [(Salaries and Fringe Benefits OR Reimbursement OR Incentive OR Fees and Charges OR pay* OR incentive* OR compensation* OR reimbursement* OR financ* OR bonus* OR remunerat*) AND (hospital AND physician AND (integration OR relation* OR alignment))]
- Forward and backward citation tracking was applied.

Stage 4 – Articles filtered
- From the initial search we retrieved 3064 articles.
- Duplicates were removed (204)
- Search results were first narrowed by title, and subsequently according to the inclusion and exclusion criteria.
  1. Inclusion criteria stipulated that citations should be: a peer-reviewed English journal, across US or Europe and be conceptual, quantitative or qualitative.
  2. Exclusion criteria stipulated that citations cannot be: industry extracts, or scholarly publications focusing the relation between hospitals and primary care physicians.

Stage 5 – Analysis
- Abstracts of relevant citations were read and classified in two categories (directly relevant and not relevant). Only the relevant citations explicitly focusing on the link between provider financial risk bearing and physician-hospital integration were included for the review (9).

2.2 Theoretical Framework

The concepts of agency theory have been found highly applicable in discussing healthcare (Smith, Stepan, Valdamis & Verheyen, 1997; Ryan, 2009). The agency dilemma is present when one party delegates work to another, who performs the work. The ‘principal’ invokes an ‘agent’ with specialized skills or knowledge to perform the task in question. An agency problem occurs when the agent does not have exactly the same objectives or motivations as the principal and does not necessarily act in the best interest of the principal (Sappington, 1991). To understand the hospital-physician relationship fully, we need to broaden our focus. As depicted in figure 3.1, besides the relationship between the hospital and the physician, a number of related, interdependent agency relationships can be identified. Firstly, the fiduciary relationship between the medical doctor and the patient lies at the heart of secondary care. This relationship is characterized by the relative disparity in information, medical knowledge and the psychological vulnerability of patients concerned about their
illness or health status. This forms the core of the long-standing physician-patient relationship in which the physicians use their competence in the individual patient’s best interest (Shortell, Waters, Clarke, & Budetti, 1998). Secondly, health insurers act as agent for the patients or population as a prudent buyer of care on behalf of the consumers. Besides this important agency function aiming at solving problems associated with knowledge asymmetry, they take over most of the consumers’ financial risk of healthcare utilization by pooling homogeneous risks. Additionally, they preserve universal access by enforcing cross-subsidies between different risk- and income groups (Van De Ven, Schut, & Rutten, 1994).

Following Boadway, Marchand and Sato (2004), we make abstraction from these two relationships (patient-physician and patient-payer) by assuming that they are passive to the risk distribution problem occurring in the hospital-physician relationship. Finally, a two-tier hierarchy of principal-agent interactions in hospital care delivery can be identified (Smith, Stepan, Valdmanis & Verheyen, 1997). The top one involves the payer as principal to the hospital and physician; the second one involves the hospital (management) as principal to the medical staff. A dual split in payment is made in which physicians and hospital have their own distinct revenue stream. In this study, we concentrate on these three important relationships. Because the unit of analysis is the contract between the principal and the agent, the focus of our analysis is on the agent’s opportunism and especially on how to determine the most efficient contractual relationship from a policy perspective. In this sense, the payment framework with the associated financial incentives can be used as an instrument to attain the goals of healthcare delivery systems (Jegers, Kesteloot, De Graeve, & Gilles, 2002). Specifically, we argue that within the agency framework three important processes can be identified: (a) risk shifting from payer to providers, (b) risk pooling within physician groups and (c) integration between the hospital and the medical staff.

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8 In many countries finance of hospital care is characterized by a dual split in which physicians and the hospital have their own distinct revenue stream. In this setting, physicians act as independent care givers generating medical fees and other operating expenses are covered by a hospital budget.
2.3 Risk shifting towards providers

Since the 1990s, many countries have adopted reforms in which providers are made financially accountable for the delivered care. This process has been referred to as ‘risk shifting’ towards providers. As new payment methods have emerged, the nature of the underlying parameters changed, resulting in a varying financial risk allocation between payer and providers. Traditionally, physicians were paid on a fee-for-service basis and hospitals were reimbursed for the costs incurred (Harris, Hicks, & Kelly, 1992). As such, virtually all financial risk associated with secondary care delivery was retained at the payer level. Both, the hospital and the medical staff, had compatible incentives to increase the volume of care using the latest technology, while maximizing the professional autonomy of the physician. However, this situation has changed in recent decades. More specifically, we argue that in general three important evolutions resulted in increased financial risk bearing by providers.
Firstly, payment systems have evolved from a retrospective, cost-reimbursement to prospective financing systems, making providers partly accountable for their expenditures. In these prospective payment systems the provider’s payment rates or budgets are no longer directly linked with the individual costs or efforts of the provider, introducing a certain financial risk at the provider level (Glandon & Morrisey, 1986). Since the provider’s costs have to be financed with a given amount of money, these systems have more incentives to stimulate efficiency than the retrospective system (Jegers et al., 2002). Secondly, recognition that the healthcare system suffers from gaps in quality and safety has stimulated a broad array of initiatives to improve performance by fostering greater accountability from the part of providers and the development of value-based purchasing. Since prospective payment systems involve strong incentives to provide care at a lower cost, there is a risk of quality skimming. The basic principle of a pay-for-quality program is to offer explicit financial incentives to healthcare providers in order to achieve predefined quality targets (Lindenauer et al., 2007). The financial incentives usually take the form of bonuses paid over and above the physician’s base income. Unlike negative incentives, it can be argued that bonuses do not install direct increased financial risk for the providers. However, these bonus payments are often drawn from surpluses in risk pools funded by withholds. These funds are mostly deducted from physicians’ risk-free base payments to be used under contracts in which physicians bear financial risk (Bodenheimer & Grumbach, 1996). Finally, healthcare policy debate in many countries has concentrated on the introduction of some form of ‘managed competition’ or ‘internal markets’ (Schut & van Doorslaer, 1999). In these dynamic managed care systems, pressures on hospitals are altered as underlying contract parameters and payment rates are no longer fixed but determined by negotiation between payer and provider. This is considered a way to reinforce the agency role of insurers as a prudent buyer of care on behalf of the consumers (value-based purchasing).

2.4 Financial risk pooling within medical groups

Physicians usually operate as quasi-independent professional agents in a physician group setting. These structures that foster shoulder-to-shoulder practice function as financial intermediaries between the payer and the individual physician (Gold, 1999). In this setting,
two tiers of financial incentives bear on physician behavior: the method of payment by the payer and the method used by the medical group to compensate individual physicians. As outcomes in healthcare may not be influenced just by a physician’s actions but also by factors that are beyond the physician’s control (i.e. individual differences in response to treatment), consequences of medical decisions may be uncertain (Pontes, 1995). In a prospective payment system physician personal financial risk can be high, particularly if patients develop high cost illnesses. However, the group-level creates the possibility to limit individual financial risk by pooling the risk within the group. This results in ‘risk pools’ which can be described as a number of physicians that are paid collectively and thus share financial risk for the cost of patient care (Gold, 1999). As the individual physicians are sometimes paid on a different basis than the group, a risk adjustment can be made at the individual practitioner level. Therefore, risk assumption may operate at different levels in organizational settings, the first via a group effect and the latter at the individual physician level. Besides the method of individual compensation, the size of the group is important. Given the free-rider aspect of distributing of equal shares (group-based pooling of financial risk), there are diseconomies of scale as size increases (Conrad et al., 2002). In addition, increased risk-bearing by medical groups is also posited to influence physician productivity through an indirect, ‘group-level’ effect on the norms and practice styles of physicians. The nature of the integration of tasks affects the extent to which free-riding can be detected and disciplined (e.g. physicians working as a team together and observing each other’s practice).

2.5 Integration between hospital and physician

Since the initiation of prospective payment, hospitals have been struggling to develop strategies that improve their prospects for long-run financial viability. Given physician autonomy, the most important one has been the effort to build effective hospital-physician relations (Smith, Reid, & Piland, 1990). This effort has been described as physician-hospital integration. Previous research has identified three types of integrative actions (Gillies et al., 2001). Although these types were initially conceptualized in the context of physician linkages to health plans, it has been demonstrated empirically that the categories of integrative actions apply also to the hospital setting (Burns & Muller, 2008; Eposto, 2004). Firstly,
physician-system integration is the extent to which physicians are economically linked to a system, use its facilities and services and participate actively in its planning, management and governance. Secondly, functional integration is defined as the extent to which key support functions and activities are coordinated across operating units to add the greatest overall value to the system. Thirdly, clinical integration encompasses hospitals’ structures and systems to coordinate patient services across people, functions, activities and sites over time (Gillies et al., 1993). Based on the findings of these researchers and drawing on academic and consulting literature, Burns and Muller (2008) proposed an alternative, improved classification of hospitals’ efforts to align their medical staff. Besides clinical integration, these researchers make a distinction between economic integration, referring to the contractual, monetary relationship between both and noneconomic integration, emphasizing the cooperative nature needed in their day-to-day relationship.

3. Results and discussion

Although from a theoretical perspective, integration should help providers to cope with higher financial responsibility, empirical evidence of the relationship between both is scarce and inconclusive. We do not intend to provide a complete overview of this research, as a review of the mixed findings on physician-hospital integration already exists (Burns & Muller, 2008). Our contribution lies in the application of theory, a shortcoming also noted by Eposto (2004). In response to this criticism, theory-based methods of review are becoming increasingly recognized as important additions. While the applied methods can differ they share an aim of providing additional explanations on complexity (Baxter & Allmark, 2013). Therefore in case of the research question under study this can be considered valuable. In addition a highly needed methodological critique is absent in the literature. Moreover, it is important to note that previous studies have used different measurements of both physician-hospital integration and provider financial risk bearing. In this section, we highlight issues associated with the measurement of provider financial risk bearing and physician-hospital integration using the insights derived from agency theory. Table 3.2 provides an overview of the results of the included studies.
<table>
<thead>
<tr>
<th>Empirical study</th>
<th>HPR</th>
<th>Sample</th>
<th>Risk</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morissey et al. (1996)</td>
<td>organizational arrangements</td>
<td>2609</td>
<td>managed care</td>
<td>Intermediate organizational forms are relatively rare. These arrangements are mostly contracting vehicles with little organizational infrastructure. Participation in a physician organizational arrangement is associated with the proportion of hospital revenue obtained from managed care sources. There is some evidence of a threshold at 15 percent of patient care revenue.</td>
</tr>
<tr>
<td>Burns et al. (1997)</td>
<td>organizational arrangements</td>
<td>Missing</td>
<td>managed care</td>
<td>No relationship could be identified. If there is a relation this may be a discontinuous rather than a continuous relationship between both. The integration may be related to the configuration of managed care activity in a market.</td>
</tr>
<tr>
<td>Dynan et al. (1998)</td>
<td>processual integration</td>
<td>1495</td>
<td>managed care</td>
<td>The effect of managed care penetration on physician-hospital integrative processes is not universal but specific to a subset of processes. More specific managed care penetration is associated with economic integration, physician involvement in capital budgeting and ambulatory activities.</td>
</tr>
<tr>
<td>Morrisey et al. (1999)</td>
<td>processual integration &amp; organizational arrangements</td>
<td>591</td>
<td>managed care</td>
<td>Physician involvement in hospital management and governance increased with managed care involvement. To a lesser degree, the use of physician organizational arrangements and other joint ventures also increased. Practice management and support services were lower in hospitals with high managed care activity.</td>
</tr>
<tr>
<td>Bazzoli et al. (2000)</td>
<td>processual integration</td>
<td>665</td>
<td>Capitation</td>
<td>Provider capitation was found to promote integration between hospitals and physicians in relation to administrative/practice management, physician financial risk sharing, joint ventures to create new services, computer linkages, and an overall measure of physician-hospital integration. No effect evident of integration and capitation on hospital costs.</td>
</tr>
<tr>
<td>Burns et al. (2000)</td>
<td>organizational arrangements</td>
<td>missing</td>
<td>managed care</td>
<td>Alliance formation is shaped by the number of HMOs in the market rather than by HMO penetration. This appears to pose a countervailing bargaining force of providers.</td>
</tr>
<tr>
<td>Wang et al. (2001)</td>
<td>organizational arrangements</td>
<td>363</td>
<td>managed care</td>
<td>The empirical results suggest that managed care is a driving force towards forward (e.g. outpatient facilities &amp; ambulatory care centers) and backward integration (e.g. and nursing homes and sub-acute care facilities that shelter patients after discharge).</td>
</tr>
<tr>
<td>Esposto (2004)</td>
<td>organizational arrangements</td>
<td>759</td>
<td>managed care</td>
<td>The greater the potential risk of a hospital becoming the victim of physician opportunistic behavior the greater the probability of it entering into some form of contractual integration.</td>
</tr>
<tr>
<td>Cuellar &amp; Gertler (2006)</td>
<td>organizational arrangements</td>
<td>missing</td>
<td>managed care</td>
<td>The empirical evidence demonstrates that hospital physician integration occurred in markets where managed care grew rapidly.</td>
</tr>
</tbody>
</table>
3.1 Measuring provider financial risk bearing

Previous studies have measured provider risk bearing in a fragmented way. Consequently these studies fail to shed light on the impact of risk shifting on the hospital-physician relationship accurately. Our theoretical framework has shown that the economic relationships between the payer, hospital and physician(s) are highly complex. However, most studies have measured provider financial risk bearing solely by the advent of managed care (Cuellar & Gertler, 2006; Morrisey et al., 1999). Although it can be argued that the parameters of ‘number of health maintenance organizations in the market’ and ‘health maintenance organization penetration’ are related to provider risk bearing, managed care is an umbrella concept in which the methods and mix of payment schemes are not uniform. A variety of payment arrangements are used, including not only capitation but also discounted fee-for-service or case-based payments. Future research should therefore focus on the underlying payment mechanisms to measure financial risk at the provider level.

Moreover, current health policy reform concentrates on the introduction of additional incentives (i.e. pay for performance) on top of the base payments (per service, per diem, per case, per patient and per period). Since outcomes of care can to a certain extent differ and vary beyond the control of physicians or hospital this induces uncertainty of outcomes. When payments are linked to these outcomes this increases provider financial risk bearing. Many developed countries have recently introduced this principle within their payment framework. It is therefore surprising that up to now no empirical research studies have studied the impact on physician-hospital integration. Moreover, since most countries have introduced this payment mechanism in a progressive way (by gradually increasing the scope of the program and the size of payments) this encompasses a promising opportunity to study this in a longitudinal way.

Considering the dual split in payment and physician autonomy in medical decision making, the degree of risk assumed by the hospital also depends on the alignment of incentives with the medical staff (Eposto, 2004). More specifically in the situations in which the hospital bears a certain degree of financial risk (e.g. per case payment) and the medical staff’s financial responsibility for their actions remains obsolete or limited (e.g. fee-for-service) the hospital’s risk can be considerably increased. Therefore, besides the financial risk induced by
the payment scheme, the degree of alignment between the separate revenue streams of the hospital and the medical staff should be included.

Another aspect of provider financial risk bearing is the possibility to share the risk induced by the payment framework between providers. Our theoretical analysis showed that the economic relationships between providers can be used as an instrument to realize this risk sharing. Firstly, the contractual relationship between physicians and the hospital they practice at can be used as an instrument to align incentives. Secondly, the physician group level as the financial intermediary between the payer and the individual physician can be of importance. Since the individual physicians are sometimes paid on a different basis than the group this creates the possibility to make a risk adjustment at the individual practitioner level. Therefore, risk assumption may operate at different levels in organizational settings, the first via a group effect and the latter at the individual physician level (Conrad et al., 2002).

3.2 Measuring physician-hospital integration

Previous research has largely focused on describing the formal structures of different physician-hospital organizational arrangements as an indicator of physician-hospital integration (Cuellar & Gertler, 2006; Burns, Bazzoli, Dynan, & Wholey, 1997; Wang, Wan, Clement, & Begun, 2001). Although data on the contractual relations between physicians and hospitals are readily available and therefore relatively easy to capture, we have some concern regarding the true measurement of integration. Firstly, it is important to realize that physician-hospital integration is more than just strengthening the economic ties between both. Instead, from a policy perspective, added value is realized by increasing the underlying day-to-day cooperation in order to improve efficient care delivery and to improve the quality of the delivered care. Secondly, it can be argued that research concentrating on the intermediary organizational forms (i.e. physician-hospital organizations) does not measure integration of physicians with hospitals. Moreover, these organizational forms are mostly contracting vehicles with the sole purpose of joint bargaining in a managed care environment without realizing true cooperation and integration (Cuellar & Gertler, 2006). This is congruent with the fact that only limited differences in the degree of underlying integrative processes across the different organizational models can be identified (Dynan,
Bazzoli, & Burns, 1998). Given these difficulties concerning the measurement of true integration by means of contractual arrangements between physicians and hospitals, the alternative approach of concentrating on the underlying processes of integration (the increased cooperation that leads to added value) is a promising line of research. In addition, since health policy reform focuses on gradually introducing additional incentives tied to outcomes of care (i.e. pay for performance) it would be valuable to study the impact on the clinical dimension of physician-hospital integration.

4. Conclusion

This paper addressed the study of provider financial risk bearing as a driving force towards physician-hospital integration. The previous sections have shown that increasing the accountability for the provided care theoretically enhances physician-hospital integration. Ultimately, this integration is considered to be a precondition for the creation of added value for the patient and cost-effective care delivery. Building on agency theory we provided a holistic understanding of the economic ties between the payer, physicians and hospital. Based on our line of reasoning it became clear that the measurement of provider financial risk bearing is highly complex and cannot be studied by incorporating only the payment framework installed by the third party payer. Attention should be paid to the alignment of incentives between the hospital budget and the revenue stream of the medical staff, the role of risk pooling at the physician group level and risk sharing between hospitals and their medical staff. Our findings, however, can at this time be supported merely on the basis of theoretical insights and experience rather than empirical research. Although some studies are available, empirical evidence of the relationship between provider financial risk bearing and physician-hospital integration is scarce and inconclusive. Moreover, previous research has measured provider risk bearing in a fragmented way and has concentrated on the prevalence of contracting vehicles that enables joint bargaining in a managed care environment. Therefore, we argue that these studies fail to shed light on the impact of risk shifting on the hospital-physician relationship accurately. However, we opened up a point of departure for studying the role of provider financial risk bearing in physician-hospital integration in greater depth. From this starting point, additional research needs to be executed in order to close the gap between policy intend and the daily practice of secondary care delivery further.
5. References


Chapter 4.
How to Govern
Physician-Hospital Exchanges:
Contractual and Relational Issues

Abstract

**Objective** Our aim was to investigate contractual mechanisms in physician–hospital exchanges. The concepts of risk-sharing and the nature of physician–hospital exchanges – transactional versus relational – were studied.

**Methods** Two qualitative case studies were performed in Belgium. Hospital executives and physicians were interviewed to develop an in-depth understanding of contractual and relational issues that shape physician–hospital contracting in acute care hospitals. The underlying theoretical concepts of agency theory and social exchange theory were used to analyze the data.

**Results** Our study found that physician–hospital contracting is highly complex. The contract is far more than an economic instrument governing financial aspects. The effect of the contract on the nature of exchange – whether transactional or relational – also needs to be considered. While it can be argued that contractual governance methods are increasingly necessary to overcome the difficulties that arise from the fragmented payment framework by aligning incentives and sharing financial risk, they undermine the necessary relational governance. Relational qualities such as mutual trust and an integrative view on physician–hospital exchanges are threatened, and may be difficult to sustain, given the current fragmentary payment framework.

**Conclusions** Since health care policy makers are increasing the financial risk borne by health care providers, it can be argued that this also increases the need to share financial risk and to align incentives between physician and hospital. However, our study demonstrates that while economic alignment is important in determining physician–hospital contracts, the corresponding impact on working relationships should also be considered. Moreover, it is important to avoid a relationship between hospital and physician predominantly characterized by transactional exchanges thereby fostering an unhealthy us-and-them divide and mentality. Relational exchange is a valuable alternative to contractual exchange, stimulating an integrated hospital–physician relationship. Unfortunately, the fragmented payment framework characterized by unaligned incentives is perceived as an obstacle to realize effective collaboration.
1. Introduction

Many western countries are struggling with rising healthcare expenditures. The share of gross domestic product attributed to healthcare continuously increases, a trend likely to intensify following the recession (OECD, 2013). Combined with the large public debt that characterizes public finance, many developed countries have shifted their attention away from stimulating growth of the healthcare delivery system and instead focus on cost control to limit the further growth of healthcare expenditure (European Hospital Federation, 2011). Hence, healthcare policy makers and public health authorities have developed incentives for healthcare providers to utilize healthcare resources more efficiently by introducing financial risk-bearing for providers. The confluence of these forces makes it unlikely that hospitals will meet these challenges without stronger alignment of incentives and increased financial risk-sharing between physicians and hospitals. This has been described as economic integration (Burns & Muller, 2008). Here we focus on contractual relationships between physicians and hospitals with the objective of investigating the contracting mechanisms in physician–hospital exchanges and the corresponding impact of governance mechanisms on the underlying Hospital-Physician Relationships (HPRs). Governance refers to the formal and informal rules of exchange between partners. Two interdependent types of governance strategy have been developed: the transaction-based (economic contracts) and the relationship-based (like relational norms) (Vandaele, Rangarajan, Gemmel, & Lievens, 2007). Despite the changing financial context and the growing importance of the subject few studies have investigated this research problem. Moreover, the available studies mainly focus on joint bargaining in a managed care context (Trybou, Annemans, & Gemmel, 2011) with virtually no research in a European context. This paper seeks to fill this gap by reporting findings from a study of physician–hospital contracting in Belgium. Building on agency theory and social exchange theory, two comparative case studies were performed. Two hospitals were selected to include both dominant alternative principles of physician–hospital contracting. In hospital A, physicians’ financial contributions to the hospital are a predetermined percentage of their fees. In contrast, hospital B uses a rigorous cost-allocation scheme and applies the principle of covering true costs. Hospital executives and physicians were interviewed to develop an in-depth understanding of the contractual and relational issues that shape physician–hospital contracting. The main contribution of the
The present study is to investigate the contractual mechanisms between physicians and hospitals at which they practice. On the organizational level, the study aims to provide preliminary insights into economic and noneconomic aspects that guide the governance strategies of physician–hospital exchanges. Furthermore, the corresponding impact of the contractual principles on the hospital–physician working relationship is investigated. Finally, building on the insights developed, we examine how the gap between health policy goals—which focus on integrative care delivery and provider accountability—and the actual practice of physician–hospital exchanges might be bridged.

2. An evolving Hospital Physician Relationship

Hospitals and physicians have been working together for years to provide specialized healthcare services. In general, physicians provide medical care and hospitals the resources to deliver that care (Schramko, 2007). In many countries, financing of secondary care is therefore characterized by a ‘dual split’ in payment, with distinct revenue streams for physicians and hospitals. Physicians then act as independent, self-employed caregivers generating medical fees, while hospital budgets cover other operating expenses. Historically, their working relationship was described as a ‘workshop model’, with both parties operating relatively independently of each other (Pauly & Redisch, 1973). In this viewpoint, physicians see the hospital merely as the location of their work where they intervene to administer treatment to patients. They then depart, leaving most of the remaining care of the patient to the hospital (Glouberman & Mintzberg, 2001). However, hospital financing has evolved to prospective payment systems, involving financial risk for the delivered care. Specifically, in per-case contracting (Diagnosis Related Groups) hospitals receive a fixed payment per admission, retaining financial risk for the length-of-stay of patients. This change has put the workshop model under pressure. Contracts were developed to share the financial risk of the care between physicians and hospitals (Burns & Muller, 2008). Hospital–physician exchanges shifted, to some extent, from trust-based cooperation to regulated collaborations governed by contracts between physicians and hospitals (White, 2009).
3. Theories of contracting

The analytical framework we use is based on two established central theories of contracting: agency theory and social exchange theory. As a starting point, the most general description of a contract is an agreement of obligations between two or more parties (Rousseau & Parks, 1992). The key function of a contract is to minimise uncertainty and allocate risk between contracting parties (Friedman, 1965).

Agency theory is one of the leading perspectives in the study of contracting. It focuses on the dilemma of a ‘principal’ engaging another party, the ‘agent’, to perform a certain task or service. Agency problems arise because agents do not have identical objectives and motivations as the principal and consequently they do not necessarily act in the best interest of the principal (Eisenhardt, 1989). Since our study concerns the contract between a principal (hospital) and agent (physician), we focus on the agent’s opportunism and how the principal can align financial incentives to motivate the agent to perform as the principal prefers (Sappington, 1991).

While agency theory gives insight into the complex issue of physician-hospital contracting, it has been criticized because it assumes that human motivation is primarily self-interested, ignoring that economic transactions are embedded in social relationships (Granovetter, 1985). Moreover, it fails to recognize that physicians, as professionals, have more complex motives underlying their behaviour (Kunz & Pfaff, 2002). Thus, although physicians act partly as self-interested individuals, it can be argued that they also act as public-spirited altruists (Le Grand, 2003). Consequently, relational norms like mutual or cooperative interchange (the reciprocity principle), which are essential for building trust and cooperation, may complement this economic approach (Vandaele et al., 2007). Moreover, contracting in healthcare poses particular challenges due to the complexity of the services and the impossibility of drafting complete, comprehensive contracts (McLean, 1989). Also, the asymmetry of information and knowledge means hospital management has a limited ability to monitor and determine the appropriateness of clinicians’ decisions (Pontes, 1995). Finally, physician’s autonomy -the freedom of a physician to deal with his or her patient and to maintain control over his or her own decisions and work activities (Engel, 1969)- is safeguarded by legislation. This makes regular power structures through authorized chains of command that would be needed to achieve the alignment impossible. These four aspects highlight the importance of noneconomic factors to HPRs. This argument is supported by
empirical research suggesting that the quality of interaction with physicians affects hospitals’ ability to contain costs and improve the bottom line (Burns & Muller, 2008). In other words, influence is exercised, not through command and control, but through negotiation and persuasion (Tuohy, 2003). Consequently, the focus of the study cannot thus be limited to the transaction as the single unit of analysis. Therefore, our second theoretical lens concentrates on relational contracting by applying Social Exchange Theory (Blau, 1964), focusing on the relationships established between hospital and physicians on the basis of transactions that occur (Macneil, 1980). This approach accentuates relational governance, which is defined as the strength of social norms present in the exchange, often referred to as relationalism (Ferguson, Paulin, & Bergeron, 2005). In this view, trust-based relationships are established with the necessary room for professional discretion (Petsoulas, Allen, Hughes, Vincent-Jones, & Roberts, 2011). Relational governance can be considered as rather informal and social, compared with contractual governance (Vandaele et al., 2007). It enables us to study the transactional and/or relational character of physician–hospital exchanges.

4. Methodology

4.1 Study Setting

The findings reported here originate from two Belgian case studies and are part of a larger programme of research studying the relationship between hospitals and medical staff. The present study focuses on the contractual relationship between hospital and physicians. The two case studies hospitals were selected to include both alternative contracting principles (physicians’ contributions as a percentage of their professional fees and coverage of the true cost induced by their activity through a cost-allocation scheme). These overarching methods of physician cost settling are regulated on the hospital level and apply to all physicians practising at that hospital.

Both hospitals were not-for-profit organizations with a self-employed medical staff. A brief overview of Belgian hospital financing is provided in supplement 1 to give insight into the Belgian context.

Case A was a medium-sized hospital (approximately 450 beds) that has chosen not to develop a detailed cost-allocation scheme. The contract governing the financial relationship
between the hospital and the medical staff uses a predetermined percentage: physicians pay a fixed percentage of their fees to the hospital to cover operational costs. The percentage due differs by medical discipline and type of procedure performed by the physician. No in-depth analysis or allocation of the costs arising from medical activities is made in drafting and (re)negotiating the agreement between physician and hospital.

Case B investigated a larger hospital (approximately 900 beds) that has developed an activity-based costing system. The contract between physicians and the hospital is based mostly on covering true costs. Specifically, physicians reimburse the hospital for the direct and indirect costs arising due to their activities (when not included in the hospital’s budget). A rigorous cost system allocates costs to different specialists (i.e. cost drivers are identified). Because of developments in medical practices, technologies and payment frameworks, frequent negotiation takes place to refine and adapt the cost-allocation scheme.

4.2 Data collection and analysis

We conducted interviews with both physicians and members of the executive committees. Within the executive committee, the Chief Executive Officer, Chief Financial Officer, Medical Director and Chief Nursing Officer were chosen because of the differences in their responsibilities within the hospitals and the differences in their interaction with medical staff. Also, because of the central role of the medical board in structured negotiations between medical staff and the executive committee, the president of the medical board was also interviewed. The different specialties were chosen based on differences in their operational connections with the hospital (e.g. the extent to which they make use of operating theatres and supporting personnel) and the differences in their remuneration and associated incentives (medical fees). We focused our study on admitting physicians and excluded supporting medical staff (like radiologists). Within each hospital, we conducted an interview with a paediatrician, a geriatrician, a cardiologist, an orthopaedist and a general surgeon. All interviews were performed by the first author and lasted approximately 60 minutes. The 20 interviews satisfied the number necessary to reach data saturation for this study.

The theoretical points of departure are agency theory and social exchange theory. The underlying theoretical concepts were used to code and interpret the data. Specifically, the concepts of risk-sharing and the nature of the physician-hospital exchanges (transactional vs.
relational) were studied. Interview questions were of an open-ended, semi-structured nature, to allow participants to address the issues which they believed to be most significant. All interviews were transcribed in full and analysis began while the data were still being collected. This allowed exploration in further detail of any item that emerged in later interviews. The transcripts were read repeatedly and the concepts derived from the theories were tested and applied to the data in order to support our interpretation of the findings. Finally, the results were read by all co-authors to allow discussion of the reproduction and interpretation of the analysis. The identified codes, themes and statements are illustrated by direct quotations from the interviews. The quotes are associated with the specific interviewees by the following identification letters: case study A or B, function MD or CO, and number of interviewee (1–5).

5. Results

5.1 Contracting Relationships

Economic theory states that in areas such as physician-hospital exchanges, characterized by high complexity and large asymmetry of information and knowledge between the contracting parties, cooperative relationships and mutual trust are very important for successful contracting (Petsoulas et al., 2011). Respondents in both case studies mentioned that ‘an open, constructive relationship (A-MD-3; B-CO-1)’, ‘transparency (A-CO-2; B-MD-5)’, and ‘mutual respect, communication and trust (A-MD-2; B-CO-2)’ are crucial to effective cooperation and can therefore be considered key characteristics of physician–hospital contracting. Yet, at the same time these relational qualities are under threat. Trust may be particularly difficult to sustain given the dual split in payment between physicians and hospitals and the conflicting incentives installed by the payment framework. In words of an executive: ‘hospitals bear financial responsibility for the costs of prolonged length of stay. However, physicians who admit and discharge patients are remunerated by fee-for-service and thus are not exposed to this incentive. Therefore, hospital executives face the difficult task of persuading physicians to limit length of stay (A-CO-2)’. This aspect was conveyed as a ‘major cause of relational tensions (B-CO-2)’ between executives and physicians. Such conflicting financial incentives between physicians and hospitals were described in the interviews as a ‘major obstacle to effective collaboration (B-MD-3)’ and as ‘undermining the
needed mutual trust (B-CO-5). Related to this, physicians reported ‘understanding the viewpoint of physicians (A-MD-2)’ and executives stressed the importance of ‘having an eye for interest of the other party (A-CO-3)’ as prerequisites to constructive cooperation. Furthermore, the method of relative comparison between hospitals (e.g. length-of-stay) continuously ‘raises the bar (A-CO-5)’, making it more difficult to attain the level of performance required. One physician stated: ‘I believe that lump sum payments undermine constructive HPRs. This puts hospital executives under pressure, but, at the same time, they need to respect physicians’ autonomy. Of course, we should work in an integrated manner, but we have to draw the line between interactive delivery and medical decisions made between patient and physician. We [physicians] must be able to make medical choices independently (A-MD-4).’

5.2 Risk-sharing

5.2.1 Between hospital and physician

In general, one of the primary functions of a contract is to allocate financial risk. Specifically, the contract makes it possible to share risk between the hospital and the physician who makes the clinical decisions. Since these decisions put many other processes in motion, physicians have a considerable amount of control over hospital resources. Sharing the financial risk allows the possibility of holding physicians accountable for at least a part of the induced costs.

In case A (physician contribution as a percentage of their professional fees), there is no guarantee that the total costs induced by the physician’s activities will be covered and therefore the hospital may retain a great part of the financial risk. Furthermore, this type of contribution does not directly encourage the rational use of the hospital’s resources by the medical staff, which further increases the hospital’s financial risk-bearing. An executive pointed out the associated effect of this on investment decisions: ‘Since the fixed percentage contribution is not directly influenced by the costs induced by a given physician, a tendency to invest is more explicitly present. Physicians do not feel inhibited because they don’t bear the financial consequences directly (A-CO-3).’

In contrast, in case B (the cost-allocation scheme) the physician bears the financial risk of (medical) investments not covered by the hospital’s budget. In contrast to case A, this
creates incentives to use medical resources rationally and in a way that limits the hospital’s financial risk-bearing to a greater extent. In the words of one executive: ‘Physicians bear the financial responsibility of medical investments .... It is their choice to determine the need, articulate specifications and evaluate the different alternatives .... The medical specialists concerned with that specific investment bear the induced costs and associated earnings and consequently it is their decision to make (B-CO-3).’

5.2.2 Among medical staff

During the interviews, the principle of sharing the costs of medical investments among all medical staff - or in words of a participant ‘financial solidarity (A-MD-3)’ - emerged as a third important aspect. A physician introduced this aspect as follows: ‘The medical staff is not a homogenous group. The different specialties are characterized by their own nomenclature [payments] and levels of income. Also, their need for hospital-owned resources is different. Therefore, their financial relationships with the hospital differ (A-MD-1).’ An increasing level of income inequity between different medical specialisms is perceived by the respondents. Moreover, as a result of insufficient reviews and updates in line with the evolution of medical science and practice, fees for several procedures have gradually become historical in nature and no longer reflect the actual cost (van den Oever & Volckaert, 2008). Therefore, it has been ascertained that the nonproceduralists -physicians performing relatively little technical activity, like geriatricians- have come to earn a lower income than the proceduralists (e.g., cardiologists). Several executives (A-CO-1,3; B-CO-1-4) and physicians (A-MD-2-3; B-MD-4,5) even referred to ‘excessive differences in physicians’ income that cannot be accounted for’. Not surprisingly, this unfair difference in income gives rise to tensions between physicians. One physician indicated that: ‘The large imbalance in the level of income damages the relationships between physicians. Since the level of the financial contribution of each physician to the hospital needs to be determined, this creates difficulties and tensions (A-MD-3)’. Another physician explained that this imbalance ‘is in contrast with a multidisciplinary approach and collaboration needed in modern, patient-centred health care provision (B-MD-2)’. In response to this challenge of dealing with unaccounted-for differences in the input or provision costs of physicians, hospitals have (in consultation with their medical staff) installed the principle of solidarity in their cost-
allocation schemes. The degree to which the costs of investments are borne differs by the income level of the specialism.

In case A, the financial resources contributed by physicians are pooled on the hospital level to cover all expenses related to clinical practice that are not paid for from the hospital budget. Furthermore, percentages differ according to the medical discipline and type of service. Imbalances in nomenclature are partly rectified by applying different percentages.

In case B, the principle of cost allocation is applied, making it harder to correct imbalances. In contrast to case A, the contributions of all physicians are not pooled on the level of the medical staff as a whole. This implies that there is less financial solidarity. However, while this is the major principle of the contract, hospital B has implemented an additional cream-skimming method to correct for the largest imbalances within the nomenclature. In this system, specialists with relatively high income contribute a supplemental fee on top of the true cost incurred. These additional financial resources are pooled and managed at the level of the whole medical staff and are used to support medical investments which are directly beneficial to all the medical staff (e.g. information technology).

5.3 Transactional versus relational exchange

Researchers studying both formal and informal contracts have made an important distinction between those contracts that are based on a transactional exchange and those that are based on a relational exchange (Vandaele et al., 2007). However, these types should not be seen as extremes on a continuum, but coexist in a ‘balanced’ contract (Conway & Briner, 2005). Moreover, it has been argued that the administrative aspects of the HPR are essentially based on the transactional exchanges founded upon the impersonal dispatching of duties and economic rationality. The professional aspects of the HPR are considered to be fundamentally relational exchanges, as they emphasize loyalty, the expression of identity and altruism, rather than self-interested behaviour (Bunderson, 2001). Parallel to these findings, a difference in exchange between both cases could be identified. Moreover, in the situation where the financial agreement is characterized by a percentage-of-fee contribution, a more relational exchange based on ‘mutual trust (A-MD-2)’ was apparent. These physicians (A-MD-4) and executives (A-CO-2) described the financial relationship with the hospital as ‘integrated’ and the direct connection between the costs induced by a
physician and the physician’s contribution was absent. A physician noted ‘I don’t check how my financial contribution is spent ... I’m confident that the hospital spends these resources properly and efficiently (A-MD-4)’. The relational nature of the exchange is illustrated by this remark. In contrast, in the hospital in which physician contributions are based principally on covering the true cost, a more profound transactional character of exchange is apparent. Firstly, physicians are provided with a detailed explanation of the charged costs and a quid pro quo principle is applied. A physician explained ‘I expect an overview of the costs ascribed to my practice. This gives me the opportunity to check if my contribution is justified (B-MD-3)’ Secondly, the link between the expenditure of those financial resources that are pooled on the level of the medical staff (the cream-skimming contribution) and the benefits of these investments to the medical staff was more explicitly present. A physician formulated this point as follows: ‘Since some medical activities and investments are not financed explicitly by the government, we [physicians] all contribute to a medical fund (B-MD-1)’. This physician continued ‘since the medical staff members benefit directly from these contributions, we feel this is justified. However, it is not intended to finance other [not medical] investments in the hospital or to cover other costs (B-MD-1)’. Therefore, the dual character of hospital finance is clearly more pronounced in the hospital’s financial management. A clear line is drawn between the expenditure of resources initially assigned to the hospital by the hospital budget and the medical fees, which are first assigned to the physicians and then transferred to the hospital.

6. Discussion

Since healthcare policy makers and public health authorities are increasing the financial risk borne by the provider for the delivered care, it can be argued that this also increases the need to share financial risk and to align incentives between physician and hospital (Burns & Muller, 2008). However, the findings of our study demonstrate -from both a theoretical and an empirical point of view- that, besides contractual governance, an alternative view of the governance of physician-hospital exchanges exists. Specifically, relational governance focuses on the social norms present in the exchange. An altruistic view of the physician is applied and trust-based relationships are established with the necessary room for professional discretion.
Interestingly, when the interaction between contractual and relational governance is considered, two schools of thought can be distinguished in the governance literature (Vandaele et al., 2007): the substitution view and the complementarity view. The latter argues that contracting issues and relational issues complement each other. Specifically, incomplete contracts are argued to facilitate the development of informal agreements and relational behaviour (Lazzarini, Miller, & Zenger, 2004). However, while both governance strategies are, in this view, complementary, the substitution view argues that contracts are detrimental to the development of relational behaviour (Woolthuis, Hillebrand, & Nooteboom, 2005). This negative relationship between both can be explained by two arguments.

First, it has been argued that drawing up a detailed contract is interpreted as a sign of distrust (Bradach & Eccles, 1989). Second, active use of the contract may evoke opportunism, thus hindering the development of relational behaviour (Woolthuis et al., 2005).

These arguments are reflected by our findings. In the hospital where a detailed contract governs the HPR, the medical staff articulated that the transactional nature of the exchange encourages a me-us-them approach. Also, the desire to control cost allocation and expenditure illustrates the distrust between physicians and hospital. This contrasts with the other hospital, in which physicians pay a percentage of their medical fees. The medical staff and the executives of this hospital shared an integrated financial view of the HPR grounded in mutual trusting relationships.

Our study demonstrates that there is a tension present between the need for relational contracting, accentuating long-term collaboration and an integrative view of the HPR and the adversarial payment framework. A large majority of participants in our study felt that the present payment system, characterized as it is by fragmentation and unaligned incentives, tends to fuel conflict and therefore becomes a major obstacle to effective collaboration and undermines the mutual trust needed to build effective cooperative relationships. Adjustments of the payment framework are therefore desirable. This could decrease the need for detailed contractual arrangements and so increase the opportunity to develop relational governance mechanisms.

Furthermore, the imbalance in the income of physicians should be corrected at the macro level in order to harmonize the unaccountable and thus unacceptable differences, which complicates physician–hospital contracting. Also, the current imbalance hampers the
multidisciplinary approach and the collaboration that is required to provide patient-centred care.

The above findings indicate some directions to be further explored. First, future research needs to clarify in greater detail the interrelation between contractual and relational governance. In addition, the impact of the contractual relationship and the associated incentives on the relational qualities and physicians’ attitudes (like cooperation and trust) also requires further study. Second, a study of the processes of contracting from a longitudinal perspective could give more insight in the HPR. Moreover, while drawing up a detailed contract can be considered as a sign of distrust it can be argued that a detailed cost allocation system might just provide the necessary basis to build trust. Third, the importance of the relational exchange between hospitals and physicians and its effect on outcomes is another important avenue for future research.

7. Conclusion

Our study found that physician-hospital contracting is a very complex issue that involves a number of different aspects. We showed that the contract is far more than a purely economic instrument for governing the financial aspects of HPR. Specifically, the effects of the contract on the nature of the exchange—whether transactional or relational—need to be considered when determining the contract. Overall, while contractual governance methods are increasingly necessary to overcome the difficulties that arise from the fragmented payment framework (aligning incentives and sharing financial risk between hospital and physician), they can at the same time undermine the necessary relational governance. Therefore this imposes a delicate balancing act. Trusting relationships and a focus on long-term cooperation are both of major importance if effective HPRs are to be realized and to tackle the challenges faced by secondary care. It can thus be argued that it is important to avoid a HPR predominantly characterized by transactional exchanges and fostering an unhealthy me-us-them divide and mentality. A more integrated physician–hospital financial relationship would thus be very valuable.
8. References


Appendix semi-structured interview schedule chapter 4

Purpose of study
To increase insight into economic and relational aspects of Physician-Hospital Contracting.

Theoretical Background
The analytical framework we use is based on two established central theories of contracting: agency theory and social exchange theory.

Empirical Background
We build on the concept of ‘economic integration’, developed in previous studies, referring to the contractual, monetary relationship between physician and hospital. Economic integration encompasses the relationship between physician and hospital. Besides direct payments of hospitals to physicians this includes cost settlements and other financial agreements between physician and hospital.

Physician-Hospital Contracting
Can you describe your economic-contractual relationship between physician and hospital?
Can you reflect on this (positive and negative aspects)?
Can you describe a specific example [positive and negative] of the key-characteristics you mentioned as a response to the previous question?
Are there, in your view, alternatives?
What is the impact of the payment framework?
How would you describe economic relationships between physicians in this hospital?
Can you reflect on this issue?
To what extent are the economic relationships between physicians important to the economic relationship between physicians and the hospital they practice at?

With respect to the financial agreement between physician and hospital, what do you expect from the other party? Do you perceive this as obligations?
In your view can the reciprocity principle be applied to the financial relationship between physician and hospital? Specifically do you believe (in your experience) that physicians tend to reciprocate beneficial treatment they receive with positive work-related behaviour and tend to reciprocate detrimental treatment they receive with negative work-related behaviour. Do you recognize this principle and can you reflect on this principle with respect to economic physician-hospital exchanges? Can you illustrate this with a real-life practical example?
Chapter 5. Mutual obligations and areas of ambiguity in the hospital-physician relationship

Abstract

Hospitals and physicians have been working together for years in providing specialized health services. However, Hospital-Physician Relationships are considered lukewarm at best. We build on psychological contract theory to develop an in-depth understanding of how physicians (N=15) and hospital executives (N=15) in Belgium experience and interpret obligations in their working relationship. Our analysis yielded a rich understanding of mutual obligations and areas of ambiguity. Two major themes emerged from the analysis. A distinction should be made between administrative obligations (adequate support and responsive decision making) and professional obligations (clinical excellence and physician autonomy). Two areas of ambiguity could be identified reflecting both dimensions. An economic trade-off exists in the day-to-day interaction and therefore views on how the way care should be organized differ. In addition, the extent to which medical decisions should take into account the corresponding impact on hospital finance varies.
1. Introduction

Hospitals and physicians have been working together for years in providing specialized health services. In general, physicians provide the medical care while the hospitals provide the resources by which the care can be managed and delivered (Schramko, 2007). In this working relationship the physician acts as a professional, independent decision maker who has considerable control over the resources of the hospital. Their relationship was historically labelled as a ‘workshop model’ in which both parties worked relatively independent of each other, maximizing the professional autonomy of the physician (Pauly & Redisch, 1973; Harris, Hicks & Kelly, 1992). However, hospital financing has evolved from a retrospective, cost-based reimbursement to a prospective financing system (Jegers, Kesteloot, De Graeve, & Gilles, 2002). This has led to unaligned incentives: hospitals are stimulated to provide cost-effective care but also have to persuade and educate physicians whose fee-for-service incentives remain for the most part the same (Burns & Muller, 2008).

As a result, these conflicting financial incentives between physicians and hospitals are often cited as a major obstacle to effective collaboration (Mark, Evans, Schur, & Guterman, 1998; Goldsmith, 2007) and a set of long-standing practices characterized by medicine’s dominance and physician autonomy are challenged (Castellani & Wear, 2000). Consequently it has been argued that Hospital-Physician Relationships (HPRs) moved from a symbiotic relationship to competitive interdependence (Burns, Anderson & Shortell, 1990; Berenson, Ginsburg, & May, 2007). In this challenging environment hospital executives have been struggling to build effective hospital-physician relationships (Smith, Reid, & Piland, 1990; von Knorring, de Rijk, & Alexanderson, 2010) which have been pointed out as a critical determinant of organizational success (Kaissi, 2005).

The process of building effective relationships with the medical staff has been described as physician-hospital integration. Three approaches to achieve greater integration can be distinguished (Burns & Muller, 2008). The first approach is rooted in economic literature in which alignment is realized by financial means (economic integration). The second represents a sociological perspective, emphasizing the cooperative nature of the relationship (noneconomic integration). The third concentrates on the clinical dimension, the coordination of patient care (clinical integration). Since it can be argued that noneconomic integration lies at the very basis of physician alignment, building the needed trust and laying the foundation for alignment of financial incentives (Trybou, Gemmel, & Annemans, 2011)
and integrated care delivery (Gillies, Shortell, Anderson, Mitchell, & Morgan, 1993), we focus on the non-economic approach. This is considered to be a means to realize increased cooperation and refers to hospitals’ efforts to make their facilities more attractive and accessible, their operations more efficient and convenient, their decision-making processes more participative and responsive and their staffing better trained (Burns & Muller, 2008). Moreover, these efforts emphasize the needed cooperative behaviour in the symbiotic relationship with the hospital and recognize physicians’ professional career needs to build, maintain and expand their practices (Shortell et al., 2001). It aims at making the hospital more attractive for physicians by improving the hospital’s working environment and addressing physicians’ related concerns (Berenson, Bodenheimer, & Pham, 2006).

Our analysis of the transcribed interviews builds on psychological contract theory and yields a rich understanding of how physicians and hospital executives interpret and experience mutual obligations and areas of ambiguity. There has been a plethora of research on psychological contracts in the last 20 years inside and outside the healthcare sector. This research has led to a large body of empirical research that demonstrated the explanatory power of the psychological contract to a variety of work-related attitudinal and behavioural outcomes (Conway & Briner, 2005). The psychological contract consists of the individual’s belief regarding terms and conditions of the exchange agreement between the individual and his or her organization. It refers to the way the working relationship is interpreted, understood and enacted by individuals at the interface between themselves and their organization. Key issues include the belief that explicit and implicit promises have been made and a consideration offered in exchange for it, binding the parties to some set of reciprocal obligations (Rousseau, 1989). It has been shown repeatedly and consistently that individuals seek to enter and maintain a fair and balanced exchange relationship with the organization they work at, described as the norm of reciprocity (Cropanzo & Mitchell, 2005). This norm is based on the belief that organizational members tend to reciprocate beneficial treatment they receive with positive work-related behaviour and tend to reciprocate detrimental treatment they receive with negative work-related behaviour (Blau, 1964; Gouldner, 1960). In this respect, the management of the psychological contract may have important implications on hospitals’ ability to motivate and align highly skilled physicians. We use the concept of the psychological contract as our dominant theoretical framework to examine the hospital-physician relationship. The aim of this study is to understand how
physicians and hospital managers experience mutual obligations and areas of ambiguity within their working relationship.

2. Methods
We developed a robust understanding of the lived experience of the psychological contract between physicians and the hospital they practice at through the qualitative analysis of data obtained from transcribed interviews. Using a qualitative approach, our analysis focuses on the understanding of how physicians and hospital executives interpret and experience mutual obligations and areas of ambiguity in their psychological contract. Previous research has generally focused on capturing the organizations’ obligations to the individual, thereby neglecting the measurement of the individuals’ obligations and failing to study adequately the content and mutual character of psychological contracts. Following Winter and Jackson (2006), to capture both the hospital and physician perspectives of the psychological contract, managers were treated as agents of the organization and are in a position to convey promises or future commitments to physicians as actions of the organization itself (Kotter, 1973). This approach is consistent with Rousseau’s (1995) viewpoint that organizations become party to psychological contracts as principals who directly express their own terms or through agents who represent them.

2.1 Data collection
This study builds further on the data collected in chapter 4. In addition, interviews were performed at a third Belgian hospital. In accordance to qualitative research methodology, the hospital choice was based on the principle of variation. Specifically, the selected hospitals varied in size (350 – 850 beds) and ownership type (public or private). Because our research focuses on self-employed physicians, all hospitals were not-for-profit hospitals with an independent, self-employed medical staff. We conducted interviews with both physicians and members of the executive committee. Within the executive committee the Chief Executive Officer, Chief Financial Officer, Medical director and Chief Nursing Officer were chosen because of the difference in responsibilities within the hospitals and the difference in their day-to-day interaction with the medical staff. In addition, because of the central role of the medical board in the structured negotiation between the medical staff and the hospital
board, the president of the medical board was also interviewed. The different specialties were chosen based on differences in operational linkages with the hospital (i.e. the use of the operating theatre and supporting personnel) and differences in their remuneration and associated incentives (medical fees). Within each hospital we conducted an interview with a paediatrician, geriatrician, cardiologist, orthopaedist and a general surgeon. All interviews were performed by the first author lasting between 30 and 60 minutes. The 30 interviews satisfied the number necessary to reach data saturation for this study.

2.2 Data analysis

Following the studies of von Knorring and colleagues (2010) and Jones and Sambrook (2010) the data analysis was based on the constant comparison method (Holloway & Wheeler, 2009). An initial set of categories for coding the data based on the described definition of noneconomic physician-hospital integration (Burns & Muller, 2008) was used. Interview questions were of an open-ended, semi-structured nature designed to allow participants to address issues which they believed to be most significant. The final question provided an opportunity to compare the perceived obligations between executives and physicians. During the interviews probing questions were used to ensure the participant’s experiences were grounded in concrete situations to increase the validity of the interview.

All interviews were transcribed in full and analysis began whilst the data were still being collected. This provided the possibility to explore in further detail each theme that emerged in later interviews. The transcripts were read repeatedly, initial open data exploration was followed by identification of concepts and their relationships. Interview transcripts were scrutinized by the first author and categories were applied to the data. Thereafter, the content of the statements (meaning units) was condensed and changes to the categories were made according to what the data revealed (Miles, 1979). Table 5.1 provides an example of the coding procedure. The issues were explored thematically. The findings that are the subject of this paper relate to the interconnected themes listed in table 5.2. Finally, the results were read by all co-authors to discuss the reproduction and interpretation of the analysis.

In the results section, identified codes and themes of the statements are illustrated by direct quotations from the interviews. All quotes presented here were translated from Dutch. The
quotes can be related to a specific type of interviewee by identification letters: (MD) if the interviewee is a physician and (CO) if the interviewee is a member of the executive committee.

Table 5.1: An example of the analytical procedure: from meaning unit to code

<table>
<thead>
<tr>
<th>Meaning Unit</th>
<th>Condensed Meaning Unit</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Medical decision making, for instance the choice of an implant, is purely a medical matter.&quot;</td>
<td>Medical decision making is a medical matter.</td>
<td>Physician autonomous medical decision making</td>
</tr>
<tr>
<td>Hospital management has no business with those decisions and I must be able to make this choice independently. Physician autonomy has to be respected.&quot;</td>
<td>Physicians must be able to make medical choices independently.</td>
<td></td>
</tr>
<tr>
<td>&quot;As physicians we can interact and cooperate with for instance the development of clinical pathways and efficient admission and discharge policies, however we have to draw the line between interactive delivery and purely medical decisions made between patient and physician.&quot;</td>
<td>As physicians we determine medical decisions ourselves.</td>
<td></td>
</tr>
</tbody>
</table>

3. Findings

We asked study participants about their beliefs about the hospital-physician relationship and their perceptions of the obligations that exist within this relationship. Although physicians operate as independent practitioners with a distinctive revenue stream, they need organizational support that enables them to practice medicine. Consequently hospitals’ obligations typically consist of issues related to organizing and planning the hospital care. Different obligations related to supporting physicians in building and maintaining their practice can be identified. A distinction can be drawn between administrative obligations (adequate support and responsive decision making processes) and professional obligations (clinical excellence and physician autonomous medical decision making). In addition, within these main themes several sub-themes emerged. These findings are discussed in the following paragraphs. The results are presented through the use of the participants’ words.
3.1 Beliefs about effective hospital-physician relationships

The interviews started with a direct question that inquired about beliefs of what an optimal, effective hospital-physician relationship consists of. In addition to their responses to this question, respondents mentioned the characteristics of “a good relationship (MD 4 & CO 12)” also in response to other questions during the interview. The vast majority of the respondents reported that “an open, constructive relationship (CO 8)” and “mutual respect, communication and trust (MD 12)” are foundation building features that are indispensable to realize effective relationships and ultimately crucial to improve hospital performance. Related to this, one physician reported “understanding the viewpoint of physicians (MD 8)” and another participant stressed the importance of “taking into account the interests of the other party (CO 3)” as prerequisites to constructive cooperation. The belief that interests of the hospital and the medical staff are not fully aligned is illustrated by these comments.

3.2 Adequate support

This theme describes the interviewees’ experiences of obligations related to providing adequate support to physicians. Physicians rely on hospital resources to deliver medical care. The way supporting processes are organized has an influence on their day-to-day activities. Related to this obligation, three subthemes emerged from the interviews. Participants stressed the importance of an adequate number and competent supportive staff, talented
and skilled physicians-colleagues and efficient and convenient operations that enhance physicians’ efficiency.

An adequate number and competent supportive staff. Hospitals deliver integrated secondary care. Whereas the care is coordinated by physicians, a lot of supporting staff with specific expertise and experience is invoked. Nurses are responsible for the bedside nursing care (i.e. wound care and the administration of drugs), technicians assist them in performing medical procedures (i.e. imaging, interventional and surgical procedures) and other professionals like physiotherapists and pharmacists provide other specific care. As one respondent reported:

An adequate number of nurses to monitor my patients is a basic requirement to realize high quality care. This is equally important at night. Next to the staffing level, their competence is of the upmost importance (MD 5).

However, physicians are ultimately responsible for the quality and coordination of the delivered care. A physician clarified this aspect as follows:

It is a well-known fact that a lot of errors are made for instance with the administration of drugs. As a physician, I’m legally responsible for the care to my patient. However, I can’t monitor the patient care 24 hours a day. To realize high-quality care I need competent supporting staff that can be relied on (MD 12).

Providing adequate as well as competent supportive staff can therefore be considered as an important obligation of the hospital and a key concern of physicians. This was confirmed by the hospital executives as a key obligation of the hospital.

Talented and skilled physicians-colleagues. The medical field is characterized by specialization and interdisciplinary dialogue between different specialties is increasingly important. Attracting competent physicians that contribute to the realization of high quality care is an important obligation of the hospital. Besides providing adequate supporting staff, it is also important for physicians that the hospital attracts and retains competent physician-colleagues. As two physicians put it:
Practicing medicine is increasingly complex and patient care has evolved from a mono- to multidisciplinary model ... given the shortage of certain specialties, cooperation with other, competent specialists is a major concern (MD 2).

An important referral pattern within the hospital exists, this generates additional patient care for colleagues with other (sub)specialties (MD 7).

Hospital executives did acknowledge this obligation in the hospital-physician relationship and indicated this as “a shared responsibility (CO 3 and CO 12)”. Moreover, the medical board and groups of physicians (the associations) play a dominant role in attracting physicians. This finding illustrates that felt obligations by physicians are not solely shaped by the hospital but are also cocreated by the medical staff (hospital management with physicians).

Efficient and convenient operations. A majority of the respondents believe that assuring efficient and convenient operations to physicians is one of the primary obligations of the hospital. As one physician commented:

The way the care is organized has a direct impact on my personal efficiency. When I need to wait for results or needed support, I’m losing valuable time, time that can be spent to patient care (MD 9).

Related to this, respondents stressed the financial importance of well-organized operations from a physician perspective. As an independent practitioner with a distinctive revenue stream they are responsible for generating their own income. Efficient operations limit the opportunity cost of time spent away from their own practice and maximize the time available for remunerated patient care. A physician clarified that “considering the fee-for-service payment system of medical fees, the way the care is organized has also important financial implications (MD 1)”.

Hospital Executives acknowledge that efficiency and convenient operations are important to physicians since “the physicians act as independent caregivers generating their own income [professional fees] (CO 6)”. However, executives accentuate this aspect as import area of
ambiguity since in the “day-to-day interaction between both parties an economic trade-off exists (CO 11)”. The way the care is organized may be very efficient for the physician but from a hospital perspective it can be inefficient and even wasteful. An executive pinpointed:

Modern hospital care is characterized by multidisciplinary. Physicians appeal to a lot of supporting staff (i.e. nurses). Whereas it can be considered efficient to delegate certain tasks to a nurse from a physician practice perspective, from a hospital perspective this might be inefficient and increase labour costs. Similarly, when nurses regularly have to wait for a delayed physician (i.e. to begin the medical round at the nursing ward) hospital costs increase (CO 1).

3.3 Participative and responsive decision making

Physician involvement in hospital decision-making processes could be identified as a central theme in the interviews. Physicians frequently stressed the importance of decisions made by executives to their own day-to-day practice. They need hospital resources, managed by hospital executives, to deliver medical care. Accordingly physicians expect participative and responsive decision-making processes. Specifically, resource allocation and budgeting decisions were perceived as indispensable to develop their medical practice and clinical field further. Likewise, respondents believe that participative and responsive decision making processes are crucial to the individual medical staff members:

The core business of the hospital is to deliver medical care. Therefore, besides the patients, physicians are the most important stakeholders of the hospital. The medical field is complex and is highly specialized, consequently clinically related choices can only be made in close cooperation with the medical staff (MD 9).

Justice and equal treatment of physician(group)s were expressed as a central concern by the interviewed physicians. The participants asserted that fairness of the procedures used in hospital decision making is an important aspect. Additionally, the explanation provided to physicians, which conveys information about why procedures were used in a certain way or
why decision outcomes were distributed in a certain fashion, is considered an obligation of hospital management. This was acknowledged by the interviewed executives:

We inform our physicians about the important management decisions made in the hospital . . . since they are our professional partners in delivering care they have the right to have information when significant decisions are made . . . this also raises their level of commitment to the hospital (CO 8).

While different committees that defend the interests of the medical staff as a whole are present in the hospital, participative and responsive decision making processes are also important at the level of individual medical staff members: A physician clarified:

The composition of these committees is often determined by elections. At first sight, this seems fair but it is important to realize that the medical staff is not a homogenous group and is composed of different groups of specialties with different needs. Consequently, the specialties that are greater in number are elected and the smaller specialties like paediatrics are strongly underrepresented (MD 11).

3.4 Professional obligations

Clinical excellence. At first sight hospital and the medical staff members have clearly the same objective: the improvement of the health of individuals by providing excellent hospital care. Since the medical professional plays a central role in realizing high quality care, it is not surprising that the interviewees perceive “excellent medical care (CO 3)” and “meeting the high standards of clinical practice (MD 6)” as the primary obligations of the medical staff members. Respondents clarified that the “essence of the working relationship lies in the clinical contribution of the MD (CO 9)” and stressed that “the medical expertise, competence and skills of physicians are of the upmost importance (MD 3)”. Therefore, the clinical contribution of physicians to the secondary care delivered in the hospital lies at the heart of the hospital-physician relationship and is considered to be the primary professional obligation by both physicians and hospital executives.
Physician autonomous medical decision making. Physicians enjoy a monopoly in several major decision areas (i.e. admit and discharge patients, the decision to perform a certain procedure). In the past, this professional autonomy was reinforced by the financing system by which physicians were paid on a fee-for-service basis and hospitals were paid on the basis of costs incurred. As such, the financial incentives were aligned. However, the financial relationship between hospitals and physicians has changed. Hospitals have evolved from a physician workshop to accountable organizations, charged with the development of internal organizations where quality and cost effectiveness go hand in hand. Hospitals bear the associated financial risk of DRG-payment systems (and sometimes pay for quality initiatives) creating a greater need for managing the delivery of care. Consequently physician autonomy has eroded in recent years. In the interviews, the safeguarding of physician autonomy was expressed as a central concern and primary obligation of hospital management by a vast majority of the interviewed physicians. Two respondents commented:

Medical decision making, for instance the choice of an implant, is purely a medical matter. Hospital management has no business with those decisions and I must be able to make this choice independently. Physician autonomy has to be respected (MD 5).

As physicians we can interact and cooperate with for instance the development of clinical pathways and efficient admission and discharge policies, however we have to draw the line between interactive delivery and purely medical decisions made between patient and physician (MD 15).

However executives stressed the different financial incentives induced by the payment framework characterized by a dual split in payment (in which physicians and hospital have separate revenue streams). During the interviews it became clear that hospitals, confronted with a prospective payment system, have to persuade physicians to adjust their medical behaviour while their fee-for-service incentives remain largely the same. Prospective payment systems create “a greater need for managing the delivery of care (CO 5)”’. This introduces considerable financial risk on an organizational level and potential conflict of interest into the triangular relationship hospital-physician-patient. There is clearly a tension
between the need for independent medical decision making, focusing on the individual patient interest and the adversarial payment system of hospitals that concentrates on an aggregated level (i.e. the mean length of stay). In response to these financial incentives installed by the payment system, hospital management responds by the use of a variety of techniques intended to reduce the cost of secondary care (i.e. length of stay) and improve the quality of care (i.e. clinical pharmacy). Guidelines, formularies, profiling and financial agreements are used and force physicians to consider not only the needs of the individual patient but also those of the hospital. While the improvement of the health of his or her individual patients is still the primary responsibility of the physician, this is no longer his or her exclusive responsibility. Modern health care delivery forces physicians to consider not only the needs of the patient but also those of the hospital:

Of course our physicians need to take into account the financial impact their medical decisions have on the hospital. Modern care delivery is characterized by budgetary constraints and hospitals are held accountable for the assigned public means. Pharmaceutical prescriptions, length of stay and performed technical examinations have an important influence on the hospital bottom line [hospital financial performance]. This economic reality should be taken into account by physicians to realize cost-effective, sustainable hospital care (CO 2).

4. Discussion

Internationally, physician-hospital integration has emerged in response to increased pressures to improve quality and cost-effectiveness of hospital care delivery. However, while previous research has focused almost exclusively on the contractual arrangements between both hospital and physician we have shown that physician-hospital integration encompasses more than just strengthening the economic ties between both. Using the theoretical lens of psychological contract theory, our findings draw attention to the importance of noneconomic integration. Moreover, the majority of the participants in our study stressed the importance of an open, constructive relationship characterized by respect, communication and mutual understanding. Trust emerged as a foundation-building characteristic of the hospital physician relationship. This finding is supported by the large
body of evidence that consistently found trust as an outcome of cooperative behavior (Zhao, Wayne, Glibkowski, & Bravo, 2007) and a key element of effective work relationships between hospital managers and physicians (Succi, Lee, & Alexander, 1998).

The results of our study have some important implications. Firstly, it is clear that the policy framework has a great influence on the working relationship between executives and physicians. More specifically, the dual split in payment and the alignment of incentives poses serious challenges to the hospital-physician relationship (Goldsmith, 2007; Berenson et al., 2007). This conflict of interest challenges physician autonomy and tends to fuel conflicts. Therefore, it is perceived as an obstacle to effective collaboration between hospital and the medical staff and a more integrated policy view on hospital financing is highly needed.

Secondly, hospital executives should recognize the critical need to develop and maintain effective hospital-physician relationships in order to realize cost-effective care delivery. Research rooted in social exchange has shown that individuals seek to enter and maintain a fair and balanced exchange relationship with the organization they work at (Cropanzo & Mitchell, 2005). This principle is based on the belief that physicians tend to reciprocate beneficial (or detrimental) treatment they receive with positive (or negative) work-related attitudes and behaviour (Blau, 1964; Gouldner, 1960). In this respect, the management of hospital-physician relationships can be considered to be highly important. Our interviews have shown that participative and responsive decision making is a key concern of physicians. These findings are consistent with the large body of evidence focusing on organizational justice (Colquit, Conlon, Wesson, Porter, & Ng, 2001). Moreover, it has been shown that responsive and participatory decision making processes enhance trusting relationships with executives and enables effective work relationships (Succi et al., 1998). Furthermore, taking into consideration and weighing the interests (of the hospital vs. self-employed physician) was described as a difficult balancing act that characterizes the physician-hospital working relationship. Involving physicians in hospital decision making can increase their fiduciary responsibility and exposure to tough decisions, both of which are likely to increase physician sensitivity to hospital performance (Smith et al., 1990). In addition, our findings raise a number of important questions for future research. One important avenue for future research is to focus on the importance of social exchange and reciprocity in the hospital-physician relationship. Moreover, physician response to perceptions that the hospital is not fulfilling its obligations (psychological contract breach) would be insightful. Specifically, the
sensitivity to unmet professional obligations compared to unmet administrative obligations can be considered interesting (Buderson, Lofstrom, & Van De Ven, 2000; Burderson, 2001). Furthermore, given recent efforts to reform the financing and delivery of health care, the degree to which the perceived medical autonomy by physicians is preserved can be valuable information (Spyridonidis & Calnan, 2011). Our research demonstrates the usefulness of the concepts of reciprocity and the psychological contract in understanding and improving hospital-physician relationships. This analysis should assist hospital executives and physicians in building cooperative relationships needed to improve the quality and cost-effectiveness of hospital care delivery. We hope that this study and any further work which arises from it will inform and challenge current debate.

5. Conclusion

Our analysis of the transcribed interviews yielded a rich understanding of how physicians and hospital executives interpret and experience mutual obligations and areas of ambiguity in their psychological contract. We found that a distinction should be made between administrative obligations (adequate support and responsive decision making) and professional obligations (clinical excellence and physician autonomy). Executives should recognize the critical need to develop and maintain effective hospital-physician relationships in order to realize cost-effective care delivery. The policy framework in which hospitals and physicians operate has a great influence on the working relationship between physicians and executives. The dual split in payment and alignment of incentives is frequently perceived as an obstacle to effective collaboration. Two areas of ambiguity could be identified reflecting both dimensions. On the one hand a trade-off exists in the day-to-day interaction of self-employed physicians with the hospital. Therefore, the interpretation of executives and medical staff members about the way the care should be organized differs. On the other hand, in contrast to the prospective hospital financing system, physicians are mainly remunerated by fee-for-service. The extent to which physicians should take into account the impact their medical decisions have on the hospitals’ financial performance varies between executives and physicians.
6. References


Appendix semi-structured interview schedule chapter 5

Purpose of study
To develop an in-depth understanding of the lived experience of mutual obligations and areas of ambiguity by physicians and hospital executives.

Theoretical Background
From a theoretical point of view we draw on psychological contract theory. Specifically we focus on perceived obligations by (self-employed) physicians and hospital executives.

Empirical Background
We build on the concept of ‘noneconomic integration’ conceptualized in previous studies. This type of integration strategy emphasizes the cooperative structure of the hospital-physician relationship. Specifically, noneconomic integration is described as the hospital’s efforts to enlist physicians by making their facilities more attractive and accessible, their decision-making processes more participative and responsive and their staffing better trained. These efforts are rather heterogeneous in nature but all focus on improving day-to-day working relationships of hospitals with their physicians.

Hospital-Physician Relationships
What do you as a physician practicing in this hospital [or executive] understand as high-quality, effective hospital-physician relationships?

Can you describe a specific example hospital [positive and negative] of the key-characteristics you mentioned as a response to the previous question?

In general how would you describe physician-hospital exchanges both roles from both points of views)?
The psychological Contract

As a physician practicing in this hospital [executive] what do you expect from the hospital [members of the medical staff]?

- In general
- With respect to your activity [responsibilities] in this hospital
- With respect to your medical group
- With respect to the medical staff as a whole

To what extent are these expectations perceived as obligations [During the interviews professional and administrative dimensions were articulated and the link with noneconomic integration emerged].

To what extent are these obligations considered mutual?

If you take the perspective of the other party [executive/physician], what would you think they would respond to these questions (expectations/obligations and mutual character)?

Reciprocity

A central concept in individual-organization exchanges is the principle of reciprocity. This norm is based on the belief that organizational members tend to reciprocate beneficial treatment they receive with positive work-related behaviour and tend to reciprocate detrimental treatment they receive with negative work-related behaviour. Do you recognize this principle and can you reflect on this principle with respect to physician-hospital exchanges?

To what extent can this principle be applied to clinical / professional [administrative] aspects of the HPR (i.e. Length Of Stay, prescribing of pharmaceuticals)?
Chapter 6.
Hospital-Physician Exchanges: The moderating effects of the Chief Medical Officer and organizational trust

Abstract

**Background** Hospital-physician relationships (HPRs) are critical to hospitals’ organizational success. A distinction can be drawn between economic and noneconomic exchange. Physician leadership and organizational trust are important components of managerial strategies aiming at optimizing HPRs.

**Purpose** The purpose of this study was to investigate the moderating role of the quality of Leader-Member eXchange with the Chief Medical Officer (LMX CMO) and organizational trust in the relationship between economic and noneconomic exchange and physicians’ organizational attitudes and Organizational Citizenship Behaviours (OCBs).

**Methodology** Self-employed physicians of six Belgian hospitals were surveyed. The moderating role of LMX CMO and organizational trust in the relationships of (distributive and procedural) organizational justice and (administrative and professional) psychological contract breach and physicians’ key organizational attitudes and OCBs were assessed.

**Findings** Our results showed a relationship between both psychological contract breach and organizational justice and physicians’ organizational attitudes. In contrast to organizational justice, no relationship was found between psychological contract breach and OCBs. Quality of exchange with the CMO and organizational trust buffered the negative effect of psychological contract breach and reinforces the positive effects of organizational justice with respect to physicians’ organizational attitudes. When OCBs are considered, only a relationship with organizational justice was present which was moderated by the quality of exchange with the CMO. Remarkably, physicians who experience low levels of LMX were less affected by perceptions of justice, whereas the work behaviours decreased as justice decreased among physicians that experience high levels of LMX.

**Conclusion** Our results demonstrate that physician leadership and organizational trust are important to physician-hospital exchanges. Both economic and noneconomic aspects are important when considering physicians’ key organizational attitudes. However, with respect to organizational citizenship only the economic dimension of exchange was found to be significant. The reciprocity dynamic can be enhanced by high-quality exchange with the CMO and by building organizational trust.
1. Introduction

The hospital sector in Belgium, similar to that of many other developed countries, faces challenging times. In response to continuously rising healthcare expenditures (OECD, 2013) and concerns about the quality of care (WHO, 2006), hospitals find themselves at the locus of the reform debate.

Against this background, hospital executives are charged with the development of organizations in which high-quality care is efficiently delivered in an increasingly competitive environment (Al-Amin & Housman, 2012). Physicians hold a centrally important function in hospitals and are critical to hospitals’ organizational success. For example, medical doctors enjoy a monopoly in several major decision areas, such as choosing to admit and discharge patients, selecting and performing clinical procedures and prescribing pharmaceuticals. It is thus unlikely that hospitals will be able to meet these challenges without closer cooperation with the medical staff (Burns & Muller, 2008). Besides their operational importance, physicians are also of strategic importance to hospitals. Specifically, in search of economies of scope and scale, hospitals are involved in a medical arms race, competing strongly to admit physicians so as to increase their patient volume (Berenson, Bodenheimer & Pham, 2006).

However, the relationship between physicians and hospitals has become strained in the past few decades and is now considered lukewarm at best. Moreover, the conflicting incentives of physicians and hospitals are often cited as major obstacles to effective collaboration (Goldsmith, 2007) and physician migration to ambulatory entities that compete with hospitals is also a matter of key concern for hospital managers (Berenson, Ginsberg & May, 2007).

In response to these challenges, hospitals have attempted to improve hospital-physician relationships (HPRs). In the literature, two types of managerial strategies are identified. A first approach focuses on the contractual or economic relationship. The second focuses on the noneconomic dimension and emphasizes the cooperative structure and collaborative nature of the HPR (Trybou, Gemmel & Annemans, 2011). In this paper, we study both approaches from a social exchange perspective. Specifically, we apply the concepts of organizational justice (Greenberg, 1987) and the psychological contract (Rousseau, 1989) to
study the exchange relationships that hold between physicians and hospitals. The psychological contract is an aspect of the noneconomic dimension and has been described as the individual’s beliefs regarding the terms and conditions of the exchange agreement (Rousseau, 1989). Organizational justice pertains to the economic dimension and refers to perceptions of fairness in decision-making and resource allocation (Greenberg, 1987).

In psychological and management research, these two concepts together have gained prominence as the dominant framework for understanding the employee-organization relationship (Cropanzano & Mitchell, 2005). Moreover, it has been demonstrated that perceptions of the (non)fulfilment of psychological contracts (Conway & Briner, 2005) and organizational justice (Colquitt et al., 2013) have a profound impact on organizational attitudes and behaviours. Each construct can be used to explain partly how intra-hospital exchanges influence working relationships. Surprisingly, there have been few studies that have applied these concepts to study the HPR. Our objective in this study is to fill this gap by investigating these concepts in a sample of self-employed physicians. We make three important contributions to the literature. First, as explained above, we study both the economic and noneconomic sides of the hospital–physician exchange. Second, it has been shown that, in the case of professionals, reciprocity is more complex than originally conceived (Trybou, Gemmel, Pauwels, Henninck & Clays, 2013) and an ideologically pluralistic work setting in which ideologies of professional work bump up against ideologies of administrative work is present (Bunderson, 2001). Specifically, administrative and professional obligations in the psychological contract are used to study noneconomic aspects of the HPR. Third, one critical gap in the literature is the absence of research into how economic and noneconomic exchanges interrelate with physician senior leadership and trust.

One theory that examines the influence of leaders on organizational members is Leader-Member eXchange (LMX). According to this social exchange-based theory, leaders form qualitatively different relationships with organizational members and high-quality LMX fosters organizational attitudes and behaviours that are beneficial to the organization (Sparrowe & Liden, 1997). Another relevant concept is organizational trust, which can be described as the willingness to be vulnerable to the actions of a trustee on the basis of the expectation that the trustee will perform a particular action in the absence of any control or
monitoring mechanism (Mayer, Davis & Schoorman, 1995). Specifically, trust develops when two parties reciprocate mutual obligations over a certain period (Blau, 1964; Coyle-Shapiro & Conway, 2005). It may therefore be argued that trust facilitates the effects of social exchange (Dirks & Ferrin, 2001). More precisely, we address the perceived quality of exchange with the Chief Medical Officer (CMO), as well as the perceptions of organizational trust by the physicians as potential moderators of these relationships.

2. Theoretical Background

This study builds on exchange theory (Blau, 1964), which distinguishes between social exchanges and economic exchanges. In this study, the former is studied using the concept of the psychological contract and focuses on the noneconomic obligations perceived by physicians. The latter is studied through the concept of organizational justice and focuses on the contractual relationship between physician and hospital. Central to both concepts is the norm of reciprocity or the theoretical assumption that organization members tend to reciprocate perceived beneficial treatment with positive organization-related attitudes and behaviour and tend to respond in a negative way to negative actions (Coyle-Shapiro & Conway, 2005). Researchers have increasingly adopted this principle in order to understand relationships and accordingly it has gained prominence as the dominant framework in which to study the ubiquitous employee-organization relationship. Such studies have led to an extensive body of empirical evidence in support of the norm of reciprocity, demonstrating that individuals seek to enter and maintain a fair and balanced exchange relationship with the organization at which they work (Conway & Briner, 2005). For example, results of meta-analyses support the relationship of justice (Colquitt et al., 2013) and psychological contract breach (Zhao, Hao, Wayne, Glibkowski & Bravo, 2007) with key organizational outcomes (attitudes and behaviour). We build further on this explanatory framework and examine processes of breach and justice from this perspective.

2.1 Psychological Contract Theory

The psychological contract refers to ‘individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individual and organization’ (Rousseau, 1995: 9). These beliefs are based on the perception that promises have been made and considerations are offered in exchange, which bind the organizational member to a set of reciprocal
obligations (Rousseau & Tijoriwala, 1998). It has been suggested that the psychological contract is best understood by examining what happens when such a contract is not fulfilled. (Rousseau, 1989). This cognitive state, referred to as psychological contract breach, occurs when a discrepancy is perceived between what was promised and what was actually received (Morrison & Robinson, 1997). In the case of the psychological contract of physicians, Bunderson (2001) showed that the psychological contract is shaped by professional and administrative work ideologies. This refers to the set of ideas by which individuals posit, explain, and justify ends and means of organized social action (Seliger, 1976: 11). The psychological contract therefore involves both professional and administrative roles and perceived obligations. Both ideologies are relevant in understanding how physicians relate to the hospital they practice at. In other words, physicians interact with the hospital both as professional and as organizational member. As professional, they assume and ascribe particular roles (a set of perceived rights and obligations) to the organization that are consistent with the institution and ideology of professional work. As organizational members, they assume and ascribe particular roles to the organization that are consistent with the institution and ideology of the administrative organization. Consequently, a professional’s response to perceptions that their organization is not ‘living up to its end of the bargain’ will depend on whether the perceived breach involves professional or administrative role obligations. Table 6.1 summarizes some of the key differences between professional and administrative work ideologies.

Table 6.1: Professional and administrative work ideologies (Based on Bunderson, 2001)

<table>
<thead>
<tr>
<th></th>
<th>Administrative Ideology</th>
<th>Professional Ideology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational role</td>
<td>The organization as a social-economic business enterprise (bureaucratic system and market enterprise)</td>
<td>The organization as a professional work setting (professional group and community servant)</td>
</tr>
<tr>
<td>Organizational role obligations</td>
<td>To provide financial means, clients, administrative support and market presence</td>
<td>To provide a collegial work setting, community outreach, and defence of professional autonomy and standards</td>
</tr>
<tr>
<td>Individual role</td>
<td>The individual as an organizational member (productive resource deployed to perform organizational work)</td>
<td>The individual as a professional (highly trained expert and valued knowledge and skills)</td>
</tr>
<tr>
<td>Individual role obligations</td>
<td>To provide employment, fulfilment of formally identified role obligations (e.g. attendance, certification)</td>
<td>To provide identification, loyalty, fulfilment of generalized role obligations (e.g. excellent medical care)</td>
</tr>
<tr>
<td>Nature of exchange</td>
<td>Predominantly transactional</td>
<td>Predominantly relational</td>
</tr>
</tbody>
</table>
2.2 Organizational Justice

Organizational justice refers to the perceptions of fairness in decision-making and resource allocation (Greenberg, 1987). Justice concerns the rules governing how outcomes should be distributed and the procedures for making such distribution decisions. As such, it provides the possibility to study the contractual, economic relationship between physician and hospital. Three dimensions of organizational justice have been theoretically and empirically developed. In the present study, we focus on organization-focused justice consisting of procedural justice and distributive justice (Rupp & Cropanzano, 2002). The first reflects the perceived fairness of the formal decision-making procedures in an organization, the second refers to the perceived fairness of the outcomes or rewards that an individual receives from the organization. Both concepts are applied to the contractual relationship between physicians and hospitals in order to study the economic relationship between them. While these two types of organizational justice are typically considered the two dominant forms of organizational justice (Colquit, 2001), previous studies have also conceptualized interactional justice as a third type. This concept refers to the importance of the quality of the interpersonal treatment people receive when procedures are implemented (Bies & Moag, 1986). However since i) we explicitly apply the concept of organizational justice to study the economic exchange between physician and hospital and ii) our study focuses on the moderating effects of the quality of exchange with the chief medical officer and organizational trust (referring to relational qualities) we did not include this concept in the present study.

2.3 Social exchange as a moderator

Social exchange may function as a moderator in these relations. Previous research has shown that not all individuals react equally to psychological contract breaches and perceived organizational justice. More specifically, the influence of social exchange is far from clear. Recently, Bal, Chiaburu and Jansen (2010) have proposed two competing interaction effects describing how high-quality relationships may sensitize or desensitize a person to the negative effects of contract breach on work performance. On the one hand, the buffering hypothesis states that the negative relationship between breach and work-related outcomes will be reduced for people with high-quality social exchange relationships, as these
individuals perceive breaches as less severe and less intentional (Morrison & Robinson, 1997; Rousseau, 1995). On the other hand, the intensifying hypothesis proposes that individuals possessing high-quality social exchange relationships with their organizations are more sensitive to contract breach (Coyle-Shapiro, 2002), since they may have become more committed to their organizations and are thus less likely to leave the organization: breach therefore inflicts severe damage to their relationship with the organization. Both the buffering theory (e.g., Dulac, Coyle-Shapiro, Henderson & Wayne, 2008) and the intensifying theory (e.g., Bal, Chiaburu & Jansen 2010) have found empirical support. In the present study, we examine how differences in social exchange can influence these relationships in the context of hospital-physician exchanges.

Previous research has generally relied on several distinct concepts rooted in social exchange theory to explain organizationally desired work attitudes and behaviours. In this study we focus on two exchange-based concepts that scholars studying social exchange have often drawn upon: Leader-Member eXchange and organizational trust. The former (LMX) proposes that an interpersonal relationship evolves between organizational members and leaders against the background of a formal organization. LMX measures the quality of the interpersonal relationship between supervisor and employee (Liden & Maslyn, 1998). More precisely we apply this concept to the Chief Medical Officer\(^9\) of the hospital. The latter (organizational trust) refers to the willingness to be vulnerable to the actions of the organization (Mayer et al., 1995). Although previous research has devoted attention to the potential benefits of trust (i.e. to its direct effects on a variety of outcomes), less attention has been paid to the different ways that trust might transmit these benefits. Specifically, it can be argued that trust is beneficial as it facilitates the effects of other determinants on desired outcomes. Hence, this model suggests that trust provides the conditions under which outcomes like cooperation and higher performance are likely to occur (Dirks & Ferrin, 2001).

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\(^9\)The CMO is responsible for shaping medical policy within the hospital. He or she heads the medical department.
3. Aim and Contribution

The aim of this study was to examine the relationship of psychological contract breach (whether administrative or professional) and organizational justice (whether distributive or procedural) with the organizational attitudes and organizational citizenship behaviour of physicians. A further aim was to explore the moderating effects of the perceived leader–member exchange with the CMO by physicians and organizational trust on this relationship.

The results include three important organizational attitudinal outcomes (job satisfaction, affective commitment and intention to leave) as well as behavioural outcomes (organizational citizenship behaviour) identified in the literature.

First, job satisfaction can be described as an overall attitude that individuals have towards their job. It represents the extent to which physicians feel positive or negative about their current function (Hackman & Oldham, 1980). Second, affective organizational commitment is a person’s emotional attachment to, identification with and involvement in a particular organization (Allen & Meyer, 1996). While job satisfaction and affective organizational commitment are related, an important difference between both exists: whereas satisfaction is considered a function of performance to date and is therefore ‘backward looking’, affective commitment captures the strength of the relationship and the resultant commitment to the future, it is therefore essentially ‘forward looking’ (Gustafsson, Johnson & Roos, 2005). Third, we include intention to leave, an attitude that is critically important in light of the shortage of physicians (Kirch, Mackenzie & Dill, 2012) and the flight of physicians to ambulatory settings (Al-Amin & Housman, 2012).

Fourth, we concentrate on the organizational citizenship behaviour (OCB) of physicians. This refers to additional behaviour that goes beyond the formal job requirements, constituting additional voluntary actions (Williams & Anderson, 1991). Several forms of organizational citizenship behaviour have been developed. In this study, we include two key forms of such behaviour. Specifically, given the centrally important operational role of physicians in hospitals, we focus on physicians’ voluntary efforts to improve the quality and efficiency of care delivery. First, we focus on physicians’ Direct Personal voluntary Participation (DPP) in committees with the aim of improving the management, efficiency and quality of care delivered at the hospital (Burns et al. 2001). Second, we focus on the Indirect Stimulating Involvement (ISI) through internal influence (Bettencourt, Brown & MacKenzie, 2005):
specifically, by taking the initiative in communicating individually with the organization and with co-workers, so as to improve service delivery, physicians can also contribute to the enhancement of hospital performance.

As demonstrated in Figure 6.1, satisfaction, affective commitment, intention to leave and the organizational citizenship behaviours (DPP and ISI) of physicians are the dependent variables. As such, administrative and professional breaches are hypothesized to have a negative effect and distributive and procedural justice are hypothesized to have a positive effect.

![Figure 6.1: Study framework](image_url)

Hypothesis 1a: Administrative psychological contract breach (PCBa) is negatively related to physicians’ job satisfaction.

Hypothesis 1b: Administrative psychological contract breach (PCBa) is negatively related to physicians’ affective organizational Commitment.

Hypothesis 1c: Administrative psychological contract breach (PCBa) is positively related to physicians’ intention to leave.

Hypothesis 1d: Administrative psychological contract breach (PCBa) is negatively related to physicians’ direct personal participation.

Hypothesis 1e: Administrative psychological contract breach (PCBa) is negatively related to physicians’ indirect stimulating involvement.
Hypothesis 2a: Professional psychological contract breach (PCBa) is negatively related to physicians’ job satisfaction.

Hypothesis 2b: Professional psychological contract breach (PCBa) is negatively related to physicians’ affective organizational Commitment.

Hypothesis 2c: Professional psychological contract breach (PCBa) is positively related to physicians’ intention to leave.

Hypothesis 2d: Professional psychological contract breach (PCBa) is negatively related to physicians’ direct personal participation.

Hypothesis 2e: Professional psychological contract breach (PCBa) is negatively related to physicians’ indirect stimulating involvement.

Hypothesis 3a: Distributive justice is positively related to physicians’ job satisfaction.

Hypothesis 3b: Distributive justice is positively related to physicians’ affective organizational Commitment.

Hypothesis 3c: Distributive justice is negatively related to physicians’ intention to leave.

Hypothesis 3d: Distributive justice is positively related to physicians’ direct personal participation.

Hypothesis 3e: Distributive justice is positively related to physicians’ indirect stimulating involvement.

Hypothesis 4a: Procedural justice is positively related to physicians’ job satisfaction.

Hypothesis 4b: Procedural justice is positively related to physicians’ affective organizational Commitment.

Hypothesis 4c: Procedural justice is negatively related to physicians’ intention to leave.
Hypothesis 4d: Procedural justice is positively related to physicians’ direct personal participation.

Hypothesis 4e: Procedural justice is positively related to physicians’ indirect stimulating involvement.

LMX with the CMO and trust are moderating variables and are hypothesized to buffer (in the case of psychological contract breach) and reinforce (for organizational justice) these relationships. Specifically, following Dulac et al. (2008), we propose that high-quality social exchange relationships engender biased ‘sensemaking’ and interpretational processes ensuing from breach and justice, resulting in more positive organizational attitudes.

3.1 Psychological Contract Breach and quality of exchange with the CMO

Hypothesis 5a: LMX CMO negatively moderates the relationship of PCBa to physicians’ job satisfaction such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 5b: LMX CMO negatively moderates the relationship of PCBa to physicians’ affective organizational commitment such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 5c: LMX CMO negatively moderates the relationship of PCBa to physicians’ intention to leave such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 5d: LMX CMO negatively moderates the relationship of PCBa to physicians’ direct personal participation such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 5e: LMX CMO negatively moderates the relationship of PCBa to physicians’ indirect stimulating involvement such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.
Hypothesis 6a: LMX CMO negatively moderates the relationship of PCBp to physicians’ job satisfaction such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 6b: LMX CMO negatively moderates the relationship of PCBp to physicians’ affective organizational commitment such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 6c: LMX CMO negatively moderates the relationship of PCBp to physicians’ intention to leave such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 6d: LMX CMO negatively moderates the relationship of PCBp to physicians’ direct personal participation such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 6e: LMX CMO negatively moderates the relationship of PCBp to physicians’ indirect stimulating involvement such that this relationship is weaker when physicians perceive a higher quality of exchange with the CMO.

3.2 Organizational justice and quality of exchange with the CMO

Hypothesis 7a: LMX CMO positively moderates the relationship of distributive justice to physicians’ job satisfaction such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 7b: LMX CMO positively moderates the relationship of distributive justice to physicians’ affective organizational commitment such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 7c: LMX CMO negatively moderates the relationship of distributive justice to physicians’ intention to leave such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.
Hypothesis 7d: LMX CMO positively moderates the relationship of distributive justice to physicians’ direct personal participation such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 7e: LMX CMO positively moderates the relationship of distributive justice to physicians’ indirect stimulating involvement such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 8a: LMX CMO positively moderates the relationship of procedural justice to physicians’ job satisfaction such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 8b: LMX CMO positively moderates the relationship of procedural justice to physicians’ affective organizational commitment such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 8c: LMX CMO negatively moderates the relationship of procedural justice to physicians’ intention to leave such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 8d: LMX CMO positively moderates the relationship of procedural justice to physicians’ direct personal participation such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

Hypothesis 8e: LMX CMO positively moderates the relationship of procedural justice to physicians’ indirect stimulating involvement such that this relationship is stronger when physicians perceive a higher quality of exchange with the CMO.

3.3 Psychological Contract Breach and organizational trust

Hypothesis 9a: Organizational trust negatively moderates the relationship of PCBa to physicians’ job satisfaction such that this relationship is weaker when physicians perceive a higher level of organizational trust.
Hypothesis 9b: Organizational trust negatively moderates the relationship of PCBa to physicians’ affective organizational commitment such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 9c: Organizational trust negatively moderates the relationship of PCBa to physicians’ intention to leave such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 9d: Organizational trust negatively moderates the relationship of PCBa to physicians’ direct personal participation such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 9e: Organizational trust negatively moderates the relationship of PCBa to physicians’ indirect stimulating involvement such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 10a: Organizational trust negatively moderates the relationship of PCBp to physicians’ job satisfaction such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 10b: Organizational trust negatively moderates the relationship of PCBp to physicians’ affective organizational commitment such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 10c: Organizational trust negatively moderates the relationship of PCBp to physicians’ intention to leave such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 10d: Organizational trust negatively moderates the relationship of PCBp to physicians’ direct personal participation such that this relationship is weaker when physicians perceive a higher level of organizational trust.

Hypothesis 10e: Organizational trust negatively moderates the relationship of PCBp to physicians’ indirect stimulating involvement such that this relationship is weaker when physicians perceive a higher level of organizational trust.
3.4 Organizational justice and organizational trust

Hypothesis 11a: Organizational trust positively moderates the relationship of distributive justice to physicians’ job satisfaction such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 11b: Organizational trust positively moderates the relationship of distributive justice to physicians’ affective organizational commitment such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 11c: Organizational trust negatively moderates the relationship of distributive justice to physicians’ intention to leave such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 11d: Organizational trust positively moderates the relationship of distributive justice to physicians’ direct personal participation such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 11e: Organizational trust positively moderates the relationship of distributive justice to physicians’ indirect stimulating involvement such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 12a: Organizational trust positively moderates the relationship of procedural justice to physicians’ job satisfaction such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 12b: Organizational trust positively moderates the relationship of procedural justice to physicians’ affective organizational commitment such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 12c: Organizational trust negatively moderates the relationship of procedural justice to physicians’ intention to leave such that this relationship is stronger when physicians perceive a higher level of organizational trust.
Hypothesis 12d: Organizational trust positively moderates the relationship of procedural justice to physicians’ direct personal participation such that this relationship is stronger when physicians perceive a higher level of organizational trust.

Hypothesis 12e: Organizational trust positively moderates the relationship of procedural justice to physicians’ indirect stimulating involvement such that this relationship is stronger when physicians perceive a higher level of organizational trust.

4. Method

4.1 Procedure and sample

Seven-hundred and sixty-one physicians from six hospitals in Flanders were invited (and 2 times reminded) by their Chief Medical Officer to participate in the online survey. The invitation included a letter explaining that this study of Ghent University was supported by the ‘Vlaamse Vereniging van Hoofdartsen’ and hospital. A concise explanation of the study aim was also included. The study was approved by the medical ethics committee of the University Hospital of Ghent. Participation to the study was voluntary and anonymous. In total, 180 physicians completed the questionnaire (an initial response rate of 27%) and after deleting respondents with missing values, the final sample consisted of 130 physicians.

4.2 Measures

The survey was collated from previously published instruments that have demonstrated sound psychometric properties in past research. Supplementary to the concepts addressed in this study some additional instruments were included (i.e. referring to the mission statement, perceived organizational support and perceived quality of exchange with the medical board) which are not considered in this paper. All question items were translated into Dutch by two independent translators, and then, as a final check, translated back blindly by a third translator. All measures were assessed using a five-point Likert-type scale (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree).
4.2.1 Psychological contract breach

Previous studies have used different measures to investigate psychological contract breach. In general, a distinction can be drawn between content-specific measures (referring to specific promises) and global scales that measure the global assessment of perceptions of breaches and promises. Since we are interested in a particular type of content—namely the difference between organizational and professional aspects—we employed an adapted version of Bunderson, Lofstrom & Van De Ven (2000). More precisely, the validated scale of these researchers consists of an algebraic difference score between what was promised and what was delivered. Respondents are asked to indicate whether specific obligations existed on the part of their organizations. Subsequently, they indicate the extent to which the organization has fulfilled each obligation. Thereafter, the difference between the perceived obligations and the actual inducements provided by the organization is calculated. However, it has been argued that the use of such difference scores is problematic, because of methodological problems associated with this method (Arnold, 1996; Edwards, 2001; Freese & Schalk, 2008). Specifically, difference scores are considered less reliable (Johns, 1981) and more often have problems in the areas of discriminant validity, spurious correlations and variance restriction (Peter, Churchill & Brown, 1993) than direct measures of breach. Therefore, we adjusted the instrument of Bunderson (2001) with respect to the way that breach was rated.

We used explicit questions asking for the extent to which the hospital fulfilled or broke its obligations to the physician. Twelve attributes referring to professional and organizational obligations were surveyed. Examples of items are ‘fosters clinical excellence’ and ‘entrepreneurial’. The measurement theory underlying this framework predicts that two first-order factors corresponding to the two dimensions of the psychological contract should emerge from these 12 items. The principal components method was used to extract the initial solution. The direct oblimin varimax method of oblique rotation was used, given the close theoretical relationships expected between the two dimensions. A total of 65.8 % of variance was explained by the two factors. As a rule of thumb, items that loaded less than 0.6 on their own factor, or more than 0.4 on other factors, were removed from the analysis. In this way four items were omitted, resulting in eight items remaining. Four items loaded on the organizational dimension and four on the professional dimension. The Cronbach’s alpha
reliability coefficients were satisfactory ($\alpha = 0.85$ for administrative breach and $\alpha = 0.83$ for professional breach).

4.2.2 Organizational Justice

We measured procedural justice and distributive justice using the four-item scales developed and validated by Colquitt and Rodell (2011). Participants were told to refer to their own financial agreement with the hospital. An example of a procedural justice item is ‘Are you able to express your view?’ An example of an item dealing with distributive justice is ‘Is your financial agreement appropriate to the work you have completed?’ Cronbach’s alpha’s were $\alpha = 0.88$ and $\alpha = 0.93$ respectively.

4.2.3 Moderators

The LMX measure focused on the relationship with the CMO and was based on the seven-item instrument of Scandura and Graen (1984). A sample item is ‘How would you characterize your working relationship with the head physician?’ Cronbach’s alpha here was $\alpha = 0.90$.

Organizational trust was measured with the five-item scale developed by Mayer and Gavin (2005). A sample item is ‘I really wish I had a good way to keep an eye on the executive team.’ This instrument had a satisfactory Cronbach’s alpha reliability coefficient ($\alpha = 0.72$).

4.2.4 Dependent variables

Job satisfaction was measured with a two-item measure (Hackman & Oldham, 1980). A sample question is: ‘How satisfied are you with your function in the hospital?’ Cronbach’s alpha was acceptable here ($\alpha = 0.79$)

To measure affective commitment, we employed the five-item scale of Allen and Meyer (1990). A sample question is ‘I think I could easily become as attached to another organization as I am to this one’. Cronbach’s alpha was 0.85.

Intention to leave was measured by a two-item measure adapted from Camman, Fichman, Jenkins and Klesh (1979). A sample item is ‘I will probably look for an alternative for this hospital within the next year.’ The Cronbach’s alpha reliability coefficient was 0.89.
Organizational citizenship behaviour was measured with two constructs. One of these was a two-item shortened version of the instrument of Burns et al. (2001). This scale reflects the physician’s voluntary participation in committees with the aim of improving the management, financial viability and quality of the hospital. In this paper, we refer to physicians’ Direct Personal Participation (DPP). The Cronbach’s alpha reliability coefficient was satisfactory (α = 0.84). On the other hand, a two-item shortened version of the instrument of Bettencourt et al. (2005) was used to measure internal influence, which was described as taking individual initiative in communication with the organization and with coworkers so as to improve service delivery (Bettencourt et al., 2005). In this paper, we refer to physicians’ indirect stimulating involvement (ISI). Cronbach’s alpha reliability coefficient was sufficiently high for this (α = 0.94).

4.2.5 Control Variables

We controlled for gender and tenure (number of years practicing as a physician in that hospital). Previous studies have shown that these variables are potentially relevant to understanding social exchange (Wayne, Shore & Liden, 1997). In addition, we considered specialism (as surgeon versus non-surgeon) as a possible confounding variable. This variable was not related to the independent, dependent and moderating variables and was therefore not included in the analyses.

4.2.6 Analyses

The Statistical Package for Social Sciences (SPSS), version 21.0 for Windows (SPSS, Inc., Chicago, IL, USA), was used to conduct the analyses. Hierarchical regression analyses were used. Moderated regression analysis was conducted for hypotheses 3, 4, 5 and 6. To avoid multicollinearity, the independent variables were centred (Aiken & West, 1991). The first step of the analyses consisted of entering the control variables, gender and organizational tenure into the model. In the second step, the centred independent variables were added and then the centred moderating variables were entered. Having multiplied the centred independent variables by the centred moderators, these two-way interaction terms were entered, while controlling for their main effects and the control variables (gender and organizational tenure). Following Bal et al. (2010), we argue that interaction effects have been found to be more difficult to detect (especially in field studies) and therefore an alpha
level of 0.10 was used to estimate interaction effects (Aguinis, 2002; Aguinis, Beaty, Boik & Pierce, 2005). To understand the form of these interactions, we plotted the regression lines at 1 SD below and 1 SD above the median of LMX CMO. The correlations between the variables under study are shown in Table 6.2.

To estimate the amount of variance on the individual and hospital levels, we ran unconditional hierarchical models for the outcomes. Based on these estimates, intraclass correlations were calculated. These reflect the variance between hospitals. Since all intraclass correlations were below 0.10, we can conclude that the amount of variance between hospitals was rather small and an analysis of the aggregated data set is appropriate (Raudenbusch & Bryk, 2002).

To check whether multicollinearity posed a threat to the findings, Variation of Inflation Factor (VIF) statistics were calculated for each regression analysis (Morrow-Howell, 1994). Specifically, if the square-root VIF statistics are above 2, the precision of the parameter statistics may be impaired by multicollinearity. The analyses showed that, for all regressions, the VIF statistics were not higher than 1.5. This implies that multicollinearity is unlikely to impair the precision of the statistics in the study.

The respondents of this study provided information on the independent variables, mediators and dependent variables. Therefore, there is a potential for common-method variance. Following the guidelines of Podsakoff, Mackenzie, Lee and Podsakoff (2003), we reduced the potential for common-method bias using measures based on existing scales or through careful reconstruction of the items. The measures of dependent and independent variables were proximally separated and physicians’ anonymity was protected. Additionally, the Harmon’s single factor test using exploratory factor analysis was conducted to check whether a single factor emerged or whether one general factor accounted for the majority of the covariance among the measures. None of the factors was found to account for the majority of the covariance among the items. Therefore, we can conclude that common-method bias was not a serious threat to our analyses (Podsakoff et al., 2003).
5. **Results**

5.1 **Physician characteristics**

The respondents consisted of 61.5% men and 38.5% women, with an average age of 46.5 years (SD = 9.14). Most physicians (52.6%) had practiced at the hospital for more than 10 years. A minority of the physicians (32.0%) were surgeons. Non-respondents did not differ from respondents with respect to gender or age.

No differences in perceived exchange in terms of gender, tenure or speciality (surgeons versus non-surgeons) were present. Only a trend towards significance (P = 0.05) could be observed when the quality of exchange with the CMO was compared for male and female physicians. This implies that female physicians could experience a higher quality of exchange with the head physician. When dependent variables were considered, no significant differences were apparent.
Table 6.2: Descriptive statistics, correlations and Cronbach’s alphas (diagonal)

<table>
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<th>M</th>
<th>SD</th>
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<td>3. Specialism</td>
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<td>-.060</td>
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<td>7. Procedural Justice</td>
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<td>10. Satisfaction</td>
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<td>-.065</td>
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<td>.061</td>
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<td>.226*</td>
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<td>.409*</td>
<td>-.067</td>
<td>.652*</td>
<td>.94</td>
</tr>
</tbody>
</table>

* P < 0,05

† P < 0,001
5.2 Psychological contract breach

As shown in Table 6.2, the results show significant relationships between both administrative and professional psychological contract breach and physician organizational attitudes. Administrative psychological contract breach was related to physician satisfaction ($r = -0.408, P < 0.001$), affective commitment ($r = -0.262, P = 0.003$) and intention to leave ($r = 0.228, P = 0.009$). Similarly, professional psychological contract breach was related negatively to satisfaction ($r = -0.470, P < 0.001$), affective commitment ($r = -0.175, P = 0.046$) and related positively to intention to leave ($r = 0.286, P < 0.001$). This means that physicians who experience higher levels of psychological contract breach are less satisfied with their job, less emotionally attached to the hospital and have more intention to leave the organization.

To examine how much of the variation in physicians’ attitudes may be explained by psychological contract breach, regression analyses were used (Table 6.3).

Our results (Table 6.2) showed no relationship between administrative and professional psychological contract breach and organizational citizenship for either direct personal participation ($P = ns$) or indirect stimulating involvement ($P = ns$) in hospital performance improvement. Similarly, the hierarchical regression analyses revealed no important effects for psychological contract breach and either types of organizational citizenship behaviour (Table 6.3).

5.3 Organizational justice

Organizational justice was significantly related to physician organizational attitudes and behaviour (Table 6.2). Distributive justice was related to physician satisfaction ($r = 0.464, P < 0.001$), affective commitment ($r = 0.322, P < 0.001$), intention to leave ($r = -0.311, P < 0.001$), direct personal participation ($r = 0.226; P = 0.011$) and indirect stimulating involvement ($r = 0.285, P = 0.001$) in hospital performance improvement. Procedural justice was related to physician satisfaction ($r = 0.379, P < 0.001$), affective commitment ($r = 0.309, P = 0.003$) and intention to leave ($r = -0.372, P = 0.009$), direct personal participation ($r = 0.251; P = 0.005$) and indirect stimulating involvement ($r = 0.231, P = 0.009$) in hospital performance improvement. This implies that physicians who experience higher levels of organizational justice are more satisfied with their job, more emotionally attached to the hospital, have less intention to leave the organization and show more organizational citizenship behaviour. To
examine how much variation of physicians’ attitudes may be explained by organizational justice, regression analyses were used (Table 6.3).

5.4 Social exchange as moderator

The results of our moderating hypotheses are shown in Table 6.3.

5.4.1 Quality of exchange with the CMO

Psychological contract breach

LMX was found to moderate the relationship of administrative psychological contract breach with job satisfaction (β = 0.154, P = 0.031, ΔR² = 0.381) and affective commitment (β = 0.160, P = 0.055, ΔR² = 0.114). Notably, with respect to intention to leave, a possible trend towards an interaction effect is present (β = -0.134, P = 0.101, ΔR² = 0.192). The interaction effects are plotted in Figure 6.2. The slopes of the regression lines differed significantly from each other for job satisfaction (t = 2.18, p < 0.05) and were marginally significant for affective organizational commitment (t = 1.94, p < 0.10). These results demonstrate that a high level of LMX has a negative buffering effect on the negative relationship between administrative breach and physician satisfaction and affective commitment. This implies that physicians who experience high-quality LMX are less sensitive to the attitudinal consequences of administrative psychological contract breach.

When professional psychological contract breach is considered, LMX negatively moderated the relationship with job satisfaction (β = 0.185, P = 0.006, ΔR² = 0.442) and positively moderated the relationship with intention to leave (β = -0.196, P = 0.014, ΔR² = 0.215). The relationship with affective commitment was not moderated (β = 0.079, P = 0.349). The significant interaction effects are plotted in Figure 6.3. The slopes of the regression lines differed significantly from each other for both job satisfaction (t = 2.79, p < 0.05) and intention to leave (t = -2.49, p < 0.05). Thus, physicians who experience high-quality LMX are more satisfied and are less sensitive to professional psychological contract breach.

Organizational Justice

The quality of leader–member exchange moderated the relationship between distributive justice and job satisfaction (β = -0.202, P = 0.012, ΔR² = 0.335), intention to leave (β = 0.238,
P = 0.006, ΔR² = 0.253), direct personal participation (β = 0.209, P = 0.030, ΔR² = 0.056) and indirect stimulation involvement (β = 0.234, P = 0.014, ΔR² = 0.70) in hospital performance improvement. The relationship between distributive justice and affective commitment was not moderated. The significant interaction effects are plotted in figure 6.4 and 6.5. The slopes of the regression lines differed significantly from each other for job satisfaction (t = -2.54, p < 0.05), intention to leave (t = 2.82, p < 0.05), direct personal participation (t= 2.00, p < 0.05) and indirect stimulating involvement (t = 2.49, p < 0.05). The figure illustrates that a high level of LMX has a positive effect on the positive relationship between distributive justice and physicians’ satisfaction, OCBs and a negative buffering effect on the negative relationship between distributive justice and intention to leave. In addition, a sensitizing effect is apparent. Specifically when high LMX is present but low distributive justice is perceived, physician direct personal participation is lower than when physicians perceive low LMX.

With respect to procedural justice LMX moderated the relationship with job satisfaction (β = -0.158, P = 0.037, ΔR² = 0.318), intention to leave (β = 0.173, P = 0.034, ΔR² = 0.208) and direct personal participation (β = 0.202, P = 0.022, ΔR² = 0.091) in hospital performance improvement. Affective commitment (β = 0.020, P = 0.806) and indirect simulating involvement was not moderated (β = 0.082, P = 0.344). The significant interaction effects are plotted in Figure 6.6 and 6.7. The slopes of the regression lines differed significantly from each other for job satisfaction (t = -2.11, p < 0.05), intention to leave (t = 2.51, p < 0.05) and direct personal participation (t = 2.33, p < 0.05). These results imply that a high level of LMX has a positive effect on the positive relationship of procedural justice with physician satisfaction and OCB DPP and a negative buffering effect on the negative relationship between procedural justice and intention to leave. In addition, a sensitizing effect is apparent. Specifically, when high LMX is present but low procedural justice is perceived, physician direct personal participation is lower than when physicians perceive low LMX.
Table 6.3: Regression analyses

<table>
<thead>
<tr>
<th></th>
<th>Job Satisfaction</th>
<th>Affective Organizational Commitment</th>
<th>Intention to leave</th>
<th>OCB - DPP</th>
<th>OCB – ISI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong>*</td>
<td>P-value  β</td>
<td>P-value  β</td>
<td>P-value  β</td>
<td>P-value  β</td>
<td>P-value  B</td>
</tr>
<tr>
<td>Administrative PC Breach</td>
<td>.001 -.517</td>
<td>.001 -.305</td>
<td>&lt;.001 .315</td>
<td>.405 .075</td>
<td>.256 -.102</td>
</tr>
<tr>
<td>Professional PC Breach</td>
<td>&lt;.001 -.579</td>
<td>.027 -.200</td>
<td>&lt;.001 .324</td>
<td>.649 .042</td>
<td>.465 -.067</td>
</tr>
<tr>
<td>Distributive Justice</td>
<td>&lt;.001 .398</td>
<td>.001 .287</td>
<td>&lt;.001 -.350</td>
<td>.031 .194</td>
<td>.020 .208</td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>&lt;.001 .439</td>
<td>&lt;.001 .370</td>
<td>&lt;.001 -.342</td>
<td>.004 .255</td>
<td>&lt;.001 .332</td>
</tr>
<tr>
<td><strong>Moderating Effects</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative PCB X LMX CMO</td>
<td>.031 .154</td>
<td>.055 .160</td>
<td>.101 -.134</td>
<td>n/a n/a</td>
<td>n/a n/a</td>
</tr>
<tr>
<td>Administrative PCB X Trust</td>
<td>.094 .128</td>
<td>.451 .066</td>
<td>.467 -.065</td>
<td>n/a n/a</td>
<td>n/a n/a</td>
</tr>
<tr>
<td>Professional PCB X LMX CMO</td>
<td>.006 .185</td>
<td>.349 .079</td>
<td>.014 -.196</td>
<td>n/a n/a</td>
<td>n/a n/a</td>
</tr>
<tr>
<td>Professional PCB X Trust</td>
<td>.004 .187</td>
<td>.454 .061</td>
<td>.031 -.175</td>
<td>n/a n/a</td>
<td>n/a n/a</td>
</tr>
<tr>
<td>Distributive Justice X LMX CMO</td>
<td>.012 -.202</td>
<td>.419 .074</td>
<td>.006 .238</td>
<td>.030 .209</td>
<td>.014 .234</td>
</tr>
<tr>
<td>Distributive Justice X Trust</td>
<td>.032 -.199</td>
<td>.782 .028</td>
<td>.106 .164</td>
<td>.01 .149</td>
<td>.652 .050</td>
</tr>
<tr>
<td>Procedural Justice X LMX CMO</td>
<td>.037 -.158</td>
<td>.806 .020</td>
<td>.034 .173</td>
<td>.022 .202</td>
<td>.344 .082</td>
</tr>
<tr>
<td>Procedural Justice X Trust</td>
<td>.195 -.102</td>
<td>.330 .080</td>
<td>.434 .067</td>
<td>.504 .060</td>
<td>.624 .045</td>
</tr>
</tbody>
</table>

*adjusted for main effects of gender and tenure
Figure 6.2: Interaction between administrative psychological contract breach and LMX CMO on physicians’ attitudes
Figure 6.3: Interaction between professional psychological contract breach and LMX CMO on physicians’ attitudes
Figure 6.4: Interaction between distributive justice and LMX CMO on physicians’ attitudes
Figure 6.5: Interaction between distributive justice and LMX CMO on physicians’ OCBs
Figure 6.6: Interaction between procedural justice and LMX CMO on physicians’ attitudes
Figure 6.7: Interaction between procedural justice and LMX CMO on physicians’ behaviour
5.4.2 Organizational Trust

Psychological contract breach

Trust was found to moderate the relationship of administrative psychological contract breach and job satisfaction ($\beta = 0.128$, $P = 0.094$, $\Delta R^2 = 0.356$). Notably, with respect to intention to leave, a possible trend towards an interaction effect is present ($\beta = 0.164$, $P = 0.106$, $\Delta R^2 = 0.176$). When professional psychological contract breach is considered, trust moderated the relationship with satisfaction ($\beta = 0.187$, $P = 0.004$, $\Delta R^2 = 0.471$) and intention to leave ($\beta = -0.175$, $P = 0.031$, $\Delta R^2 = 0.176$). The interaction effects are plotted in Figure 6.8 and 6.9. The slopes of the regression lines differed significantly from each other for administrative psychological contract breach and job satisfaction ($t = 1.69$, $p < 0.10$), professional psychological contract breach and job satisfaction ($t = 2.92$, $p < 0.005$) and professional psychological contract breach and intention to leave ($t = -2.18$, $p < 0.05$). These results illustrate that a high level of organizational trust has a negative buffering effect on the negative relationship between psychological contract breach and physician satisfaction, as well as a positive moderating effect on the positive relationship between breach and intention to leave. This implies that physicians who experience high levels of trust are less sensitive to the attitudinal consequences of psychological contract breach.

Organizational justice

Trust was seen to moderate the relationship between distributive justice and job satisfaction ($\beta = -0.199$, $P = 0.032$, $\Delta R^2 = 0.313$). A trend towards an interaction effect is apparent in considering intention to leave ($\beta = 0.164$, $P = 0.106$). No moderation was present with respect to the relationship between procedural justice and our outcomes. These interaction effects are plotted in Figure 6.10. The slopes of the regression lines differed significantly from each other for job satisfaction ($t = -2.17$, $p < 0.05$). Physicians who have higher levels of organizational trust are thus more satisfied and are less sensitive to perceptions of organizational justice.
Figure 6.8: Interaction between psychological contract breach and organizational trust on physicians’ job satisfaction
Figure 6.9: Interaction between professional psychological contract breach and organizational trust on physicians’ intention to leave

Figure 6.10: Interaction between distributive justice and organizational trust on physicians’ job satisfaction
To summarize, several of the interactions presented by our theoretical framework were supported. LMX with the CMO moderated the relationships between hospital–physician exchange and physicians’ organizational attitudes and behaviours in 11 of the 16 interactions presented a priori. Organizational trust was a moderator in 4 of the 16 proposed interactions. The separate social exchange variables (LMX with the CMO and trust) moderated the relationship between psychological contract breach and physicians’ organizational attitudes, buffering the negative effects such that physicians who experience high levels of social exchange were less affected by contract breach. On the other hand, physicians’ organizational attitudes decreased as contract breach increased among physicians who experience low levels of social exchange. Furthermore, the separate social exchange variables (LMX with the CMO and trust) moderated the relationship between organizational justice and physicians’ organizational attitudes in such a way that those physicians who experience high levels of social exchange were less affected by perceptions of organizational justice. Physicians’ organizational attitudes also decreased with organizational justice among those physicians who experience low levels of social exchange. Importantly, when organizational citizenship is considered, LMX with the CMO moderated the relationship between organizational justice and OCB in such a way that physicians who experience low levels of LMX were less affected by perceptions of justice. Work behaviours, however, decreased with justice among physicians who experience high levels of LMX. In contrast to the relationships described above, this supports the intensifying hypothesis.

6. Discussion

This study is innovative in that it is among the few to study hospital–physician relationships through the lens of social exchange. Moreover, we contribute to the existing literature by focusing on the effect of psychological contract breach and organizational justice on physicians’ organizational attitudes (job satisfaction, affective organizational commitment and intention to leave) and behaviour (organizational citizenship behaviour). In addition, the moderating effects of the quality of exchange with the CMO and organizational trust were assessed.
The outcomes of this study support the proposed conceptual model only partly. First, our study confirms the significance of both noneconomic and economic exchange to the key organizational attitudes (satisfaction, trust and intention to leave) of self-employed physicians. We found support for a negative relationship between administrative and professional psychological contract breach on the one hand and physician attitudes on the other, which supports previous research on the effects of physicians’ perceptions of psychological contract breach (Bunderson, 2001). In addition, we found support for a positive relationship between distributive and procedural justice and physician organizational attitudes. These results support the findings of previous studies of the generic employee-employer relationship (Colquitt et al. 2013) and demonstrate that both noneconomic (psychological contract) and economic (organizational justice) aspects are critically important to the hospital–physician relationship.

However, contrary to expectations, we found no significant relationship between administrative and professional psychological contract breach and organizational citizenship behaviour. This contrasts with findings of previous research into the employee–organization relationship (Zhao et al., 2007). However, we argue that the explanation of this finding is rooted in the very basis of the concept of psychological contract. Specifically, beliefs are based on the perception that promises have been made and considerations are offered in exchange, binding the organizational member to a set of reciprocal obligations (Rousseau & Tijoriwala, 1998). Since organizational citizenship by definition imposes extra behaviour that goes beyond the formal job requirements and constitutes additional voluntary actions (Williams & Anderson, 1991), both concepts can be considered not directly related. Our findings highlight the need for additional research. In particular, since different types of OCB exist (e.g. altruism, sportsmanship, civic virtue ...), it would be valuable to consider the potential differences between the types of extra-role behaviour. Given the centrally important clinical role of medical doctors and their corresponding impact on hospital performance—both from a financial point of view (e.g. in terms of length of stay) and in terms of quality of provided care (such as adherence to hospital guidelines)—this presents an interesting avenue for future research. Similarly, considering the growing importance of patient-centred care (Manary, Boulding, Staelin & Glickman, 2013), extra-role behaviour focusing on patient-centred service delivery can be considered a priority for future research.
In contrast, we did find support for the proposed relationship of distributive and procedural justice with organizational citizenship behaviour. Since this refers to the economic relationship between self-employed physicians and hospitals, the resource-allocation framework introduced by Bergerson (Bergerson, 2007; Bergerson, Shipp, Rosen & Burst, 2013) can be considered a valuable perspective for interpreting this finding. Bergerson indicated that a trade-off exists between task-performance and OCB. This is referred to as the good soldier syndrome (Organ, 1988), in which a social dilemma is imposed and short-term, individual interests are seen to be at odds with long-term collective interests. From this point of view, it can be argued that physicians who experience a fair and equitable economic relationship are more likely to engage in OCB that contributes to long-term collective interests.

In addition, we set out to assess how reciprocity in physician-hospital exchanges is influenced by the quality of the relationship that physicians experience with the CMO. We found evidence of the centrally important role of the CMO in physician-hospital exchange: the negative effects of psychological contract breach were buffered and the positive effects of organizational justice were reinforced. An overall 11 of 16 possible interactions were significant. The analyses showed that physicians who experience high levels of LMX were less affected by perceptions of psychological contract breach and organizational justice, whereas physicians’ organizational attitudes decreased when psychological contract breach increased and organizational justice decreased among the physicians who experience low levels of LMX. This highlights the importance and need to develop further senior physician leadership at hospitals.

When considering our results of physician’s affective organizational commitment, our findings demonstrate that beneficial economic and noneconomic exchange perceived by physicians indeed results in higher levels of emotional attachment to the hospital. However the perceived quality of exchange with the CMO is predominantly not a moderator of the relationships of psychological contract breach and organizational justice to commitment. More precisely our findings show that LMX CMO only moderates the relationship between administrative psychological contract breach and affective commitment. The relationship between professional psychological contract breach, distributive justice and procedural justice and affective commitment was not moderated. This contrasts with the findings of
Chênevert, Vandenberghhe and Trembley (2013) who showed that passive leadership annihilates the relationship between perceived organizational support and organizational commitment of hospital employees. It would be worthwhile to further investigate this issue i) when considering the concept of the psychological contract and ii) different leadership styles.

Remarkably, we found a different type of moderating effect when the impact on the relationship between organizational justice and organizational citizenship behaviours was considered. Moreover, while physicians who perceive high-quality LMX with the CMO show more OCB, they seem to be more sensitive to low perceptions of organizational justice. Specifically, when high-quality LMX with the CMO is perceived, but perceptions of low organizational justice are present, physicians’ OCB is lower, as compared to physicians who perceive low quality LMX and low organizational support. These findings likewise underline the centrally important role of senior physician leadership in governing hospital–physician exchanges. Moreover, when strong physician leadership is absent, the beneficial effects associated with the positive perceptions of hospital–physician exchanges are blocked. The role of physician leadership needs further inquiry. Specifically, investigating leadership styles and the effect on physician performance is an avenue for future research (e.g. in the context of clinical feedback). Moreover, since the CMO is responsible for shaping medical policy within the hospital, more insight is needed into the concept (and underlying processes) of clinical leadership. Future research additionally needs to clarify the role of the CMO in optimizing the hospital as an attractive workplace for physicians (for example to prevent burnout and job stress). Cohesively, these research priorities also apply to other physician-leaders within hospitals (such as physician middle management).

The negative effects of psychological contract breach were buffered, and the positive effects of organizational justice reinforced by organizational trust only with respect to a limited number of physician attitudes. A total of 4 out of 16 possible interactions were present. The analyses show that physician job satisfaction is less affected by psychological contract breach and distributive justice when the physicians perceive a high level of organizational trust, whereas physician satisfaction decreased when psychological contract breach increased and distributive justice decreased among those physicians who experience low levels of LMX. Similarly, a positive moderating effect on the relationship between
professional psychological contract breach\textsuperscript{10} and distributive justice and intention to leave was seen. Contrary to our expectations, we found that trust did not moderate the relationship between organizational justice and OCBs. Bal et al. (2010) found a similar null result when they considered trust as a potential moderator between psychological contract breach and OCB. They argue that it might be the case that, while LMX refers to a straightforward exchange relationship between individual and organization, trust refers to a more complex relationship. In particular, Atkinson and Butcher (2003) posited that trust may be more important when the organization contributes to the personal motives of the individual and therefore has a larger impact compared to the case where individuals’ trust is only based on the fulfilment of the basic tasks of the organization, with low emotional attachment to the organization. However, our study did not find unequivocal evidence supporting this line of thought.

7. Contribution and Limitations

This study has added new knowledge to the literature. First, research focusing on the hospital–physician relationship and building on social exchange theory is scarce. Second, to our knowledge, the concepts of the (administrative and professional) psychological contract, (procedural and distributive) organizational justice and leader-member exchange have never been combined in the context of self-employed physicians. However, as with any other research, this study is not without its limitations and its results should be interpreted carefully. All hospitals involved were part of a Belgian convenience sample and therefore the results may not be too readily generalizable. Furthermore, our response rate was rather low. This is an observation that has been made previously when surveying physicians (Templeton, Deehan, Taylor, Drummond & Strang, 1997). Survey participation was voluntary and non-respondents may differ from respondents. Additionally, the non-significant findings could be related to the limited sample size. Finally, the cross-sectional nature of our study precludes strong claims of causal effects. However, the results of our study, supported by the theoretical and empirical insights of previous research are encouraging and suggest that further research is warranted.

\textsuperscript{10} A trend towards an interaction effect in case of professional contract breach.
In addition when social exchange is considered as a development process in a longitudinal sense it is important to note that organizational attitudes could precede organizational behaviors. Previous studies found that individuals who hold more favorable attitudes perform OCBs with greater frequency (Williams & Anderson, 1991) and both affective organizational commitment and job satisfaction have been identified as mediators of certain OCBs (e.g. Bettencourt, Brown & MacKenzie, 2005). Specifically, drawing on the reciprocity principle job satisfaction and affective organizational commitment could be intermediate outcomes of organizational justice and psychological contract breach. As a second step in the social exchange relationship, job satisfaction and affective organizational commitment then lead to OCBs. Although not reported, in our study path analysis (Barron & Kenny, 1986) showed no mediation by affective organizational commitment nor job satisfaction. A longitudinal study with a larger sample to examine changes over time would be valuable.

Finally it would be valuable to extent this study with other measures of organizational citizenship behaviors. Moreover, a methodological design involving leading physicians or peers to collect data on physicians’ attitudes and behaviors would be valuable. Similarly other objectified performance measures (e.g. on-time surgical starts in the operating theatre) and clinical indicators (e.g. patients’ length of stay) are future research opportunities.

8. Conclusion

The results of this study demonstrate the importance of noneconomic and economic exchanges to physicians’ organizational attitude. In addition, the significance of physicians’ perceptions of organizational justice to organizational citizenship behaviours was demonstrated. We showed further that the reciprocity dynamic can be improved by high-quality exchange with the CMO and organizational trust.
9. References


Appendix: Measurement instruments chapter 6

Psychological Contract (based on Bunderson et al., 2000)

The following table shows a number of possible characteristics of the hospital. To what extent does the hospital fulfill each of the following expectations? (Breach)

<table>
<thead>
<tr>
<th>Breach</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>An integrated functioning</td>
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<tr>
<td>Striving for hospital-wide coordination</td>
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<tr>
<td>Emphasizing hospital-wide goals</td>
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<tr>
<td>A competent medical staff</td>
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<tr>
<td>Stimulating clinical excellence</td>
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<tr>
<td>Stresses high quality care</td>
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<tr>
<td>External proactive and entrepreneurial</td>
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<tr>
<td>Business oriented</td>
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<tr>
<td>Competitive with other hospitals</td>
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<tr>
<td>Aligned with the hospitals in the area</td>
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<tr>
<td>Financial access for patients is preserved</td>
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<tr>
<td>Justified use of public resources</td>
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</tbody>
</table>

Distributive Justice (based on Colquitt, 2001)

The following items refer to your financial-contractual agreement with the hospital.

To what extent:

<table>
<thead>
<tr>
<th>Does your contract reflect the effort you have put into your work?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is your contract appropriate for the work you have completed?</td>
<td></td>
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<tr>
<td>Does your contract reflects what you have contributed to the hospital?</td>
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<tr>
<td>Is your contract justified, given your performance?</td>
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</tbody>
</table>

Procedural Justice (based on Colquitt, 2001)

<table>
<thead>
<tr>
<th>Have you been able to express your views and feelings with respect to your agreement?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you had influence over the outcome of the negotiation process?</td>
<td></td>
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<tr>
<td>Have those procedures been free of bias?</td>
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<tr>
<td>Have those procedures been based on accurate information?</td>
<td></td>
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</tbody>
</table>
Quality of Leader-Member Exchange (Chief Medical Officer)  (based on Scandura & Graen, 1984)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Do you usually feel that you know where you stand ... do you usually know the head physician’s (HP) viewpoint?</td>
<td></td>
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<tr>
<td>How well do you feel that the HP understands your problems and needs as a physician in the hospital?</td>
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<tr>
<td>How well do you feel that the HP recognizes your potential?</td>
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<tr>
<td>What are the chances that the HP would be inclined to use power to help you solve problems in your work?</td>
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<tr>
<td>To what extent can you count on the HP to bail you out at his or her expense when you really need it?</td>
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<tr>
<td>I have enough confidence in the HP that I would defend and justify his or her decisions if he was not present to do so.</td>
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<tr>
<td>How would you characterize your professional working relationship with the HP?</td>
<td></td>
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</table>

Organizational Trust  (based on Mayer and Gavin, 2005)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would be comfortable giving the executive team a task or problem that was critical to me, even if I could not monitor their actions</td>
<td></td>
<td></td>
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<tr>
<td>If someone questioned the motives of the executive team, than I give the executive team the benefit of doubt</td>
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<tr>
<td>I would be willing to let the executive team have complete control over my future in this hospital</td>
<td></td>
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<tr>
<td>I really wish I had a good way to keep an eye on the executive team</td>
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</tr>
<tr>
<td>If I had my way, I wouldn't let the executive team have any influence over issues that are important to me</td>
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</table>

Satisfaction  (based on Kickul et al., 2002)

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<thead>
<tr>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>How satisfied are you with your current function in the hospital?</td>
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<tr>
<td>How satisfied are you with your hospital?</td>
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</table>
### Affective Organizational Commitment (based on Allen & Meyer, 1990)

<table>
<thead>
<tr>
<th>Item</th>
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<th>2</th>
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</thead>
<tbody>
<tr>
<td>I consider the hospital's problems as my own problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I am emotionally attached to this hospital</td>
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<tr>
<td>This hospital means a lot to me</td>
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<tr>
<td>I feel at home in this hospital</td>
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<tr>
<td>I feel like 'a member of the family' in this hospital</td>
<td></td>
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### Intention to Leave (based on Camman & Fichman, 1979)

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
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</thead>
<tbody>
<tr>
<td>I often think of leaving the hospital</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I will probably look for an alternative for this hospital within the next year (i.e. another hospital or private practice)</td>
<td></td>
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### OCB Indirect Stimulation Involvement (based on Bettencourt et al., 2005)

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<tr>
<th>Item</th>
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<tbody>
<tr>
<td>I encourage co-workers to contribute ideas and suggestions for service improvement</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>I often make constructive suggestions to improve service improvement</td>
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### OCB Direct Personal Participation (based on Burns et al. 2001)

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<tr>
<th>Item</th>
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<tbody>
<tr>
<td>I participate as a voluntary member of committees to improve quality of care in this hospital.</td>
<td></td>
<td></td>
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<tr>
<td>I participate actively to improve the efficiency of care delivery in the hospital</td>
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Chapter 7.
General Discussion
1. Introduction

The main objective of this dissertation is to provide insight into the economic, administrative and professional aspects of physician-hospital alignment. Although at first sight both hospital and physician seem to have the same goals (improving the health of patients), a closer look shows that the interests of the two parties overlap only partly and are thus not fully aligned (Burns & Muller, 2008). In this dissertation, alignment refers to the degree to which physicians and hospitals share the same goals, objectives and strategies and work toward their accomplishment. It is important to note that, in our view, alignment is not an end in itself, but rather a means for improving the cost-effective performance of hospitals and a precondition for the creation of added value for patients and for society.

This can be considered a challenge, but it reflects stakeholders’ (patients, payers and society) expectations of improving performance in response to unsustainable increases in healthcare expenditure (OECD, 2013) and concerns about the quality of the delivered care (WHO, 2006). Hospital executives are thus charged with the development of organizations in which high-quality care is delivered in an efficient way and within budgetary boundaries. Given the centrally important role that physicians play, it is unlikely that hospitals will be able to meet these challenges without closer cooperation with their medical staff.

Unfortunately, hospital–physician relationships are frequently described as strained and lukewarm at best. In this doctoral thesis, we have identified several causes that contribute to this observation. First, the fragmentary payment framework and conflicting incentives between the (mostly self-employed) physicians and the hospitals are often cited as major obstacles to effective collaboration. Difficult (and frequently heated) discussions about financial issues and the preservation of medical autonomy are two real-life examples of the current issues. Second, highly trained physicians are considered professionals, implying that a generic hierarchical structure - based on the principles of command and control - cannot be straightforwardly applied, and that a more complex set of motives underlies their attitudes and behaviour. This complicates the management of HPRs considerably.

Previous research has conceptualized efforts aiming at intensifying and improving such relationships into three main categories: the economic, the noneconomic and the clinical view (Burns & Muller, 2008). In this thesis, we focus primarily on the first two.
As depicted in figure 7.1, we began this research effort by developing an integrated conceptual framework (Chapter 2). With the use of previous research and theoretical reasoning, the relationships between economic integration, noneconomic integration and physician-hospital alignment were studied. To study the economic dimension, we applied the central agency concept of risk to the context of HPRs. This enabled us to increase our insight into (a) the relationship between the payment framework and both the economic and noneconomic physician-hospital integration and (b) the economic integration between physician and hospital as a means for aligning financial incentives. To study the latter, we applied the theoretical lens of social exchange theory. Specifically, the central concepts of reciprocity and organizational trust were applied to noneconomic integration. The former (reciprocity) was applied so as to clarify the link between noneconomic integration and physician-hospital alignment. The latter (trust) was applied to conceptualize the interconnection between noneconomic integration and economic integration. Since the payment framework that is in place cannot be neglected, we continued by evaluating the evidence base and studying the relationship between provider accountability and physician integration from a theoretical point of view (Chapter 3). This was followed by a qualitative inquiry that focused on the economic (Chapter 4) and noneconomic (Chapter 5) relationships and a quantitative studies focusing on the link with key organizational attitudes of physicians (Chapter 6).

Figure 7.1: Conceptual Framework of Physician-Hospital Alignment
This chapter is organized as follows. First we summarize and reflect on the main findings of this dissertation. This is followed by a discussion of the theoretical and methodological contribution. Then, implications for research and practice implications for hospital managers and healthcare policy makers are addressed. We conclude by discussing the limitations of this dissertation and avenues for future research.

2. Main findings

This dissertation makes some important contributions to the academic literature on hospital–physician relationships.

When considering the economic relationship between hospitals and physicians, both the macro level (i.e. the payment system) and the meso level (the financial ties between the physician and the hospital) are important.

First, when considering the payment framework already in place (Chapter 3), it is important to note that previous research into the impact on hospital–physician relationship has mainly concentrated on the prevalence of contracting vehicles in the US. This body of knowledge is highly specific, because of the need for joint bargaining of hospitals and physicians in a managed-care environment. In addition, it can be argued that these organizational forms are merely contracting vehicles whose sole purpose is to contract insurers (but without increased cooperation or improved relationships). Furthermore, the economic relationship has been studied in a fragmented way and these studies consequently fail to shed adequate light on this complex issue. We have responded to this challenge by developing a conceptual framework that clarifies the theoretical link between provider financial risk bearing and the hospital–physician relationship. We conceptualize three important processes: risk shifting, risk pooling and risk sharing. However, this relationship can at this time be supported only on the basis of theoretical insights and experience, rather than with empirical research.

Second, to study the financial ties between physicians and hospitals in our empirical studies, we concentrated on physicians’ perceptions (Chapters 4 and 5) of the financial relationship between physician and hospital. We showed that the economic relationship is highly characterized by (a) the dual split in payment and the unaligned incentives between hospital
and physician and (b) an unhealthy imbalance between medical fees and the level of income of physicians across specialties. Both factors sour hospital-physician relationships and make it difficult to develop an integrative financial perspective. Yet we also demonstrated that, although from a strict financial perspective, the economic relationship is important and cannot be neglected, the way that this contractual relationship is perceived is also important. More precisely, when physicians perceive the contractual arrangements as (un)fair and (in)equitable, they tend to reciprocate with positive (negative) work-related attitudes and behaviours. Yet it is important to note that physicians clearly have a more complex set of motives that underlie their behaviour. Moreover, the economic transactions are embedded in social relationships, which are also important.

The noneconomic relationship of physicians and the hospital at which they practice is clearly an aspect that has been largely neglected in previous research. However, in the field of organizational behaviour, there is a substantial body of evidence demonstrating the concepts of reciprocity. This dissertation demonstrates that physicians seek to enter into and maintain a fair and balanced exchange relationship with the hospital at which they practice. Specifically, physicians tend to reciprocate perceived beneficial treatment with positive organizational-related attitudes and behaviour and will respond in a negative way to negative actions. However, we demonstrated that hospital–physician dynamics are more complex than has been previously acknowledged (Chapters 5 and 6). Besides the administrative aspects founded in the dispatch of duties and organizational rationality, the hospital-physician relationship is also strongly characterized by a professional dimension, the broader ideological context therefore cannot be neglected. In addition, we demonstrated the importance of physicians’ senior leadership within a hospital (Chapter 6). Specifically, a high quality of exchange with the CMO and (to a more limited extent) of organizational trust reinforces the beneficial effects of social exchange. Negative perceptions are buffered (psychological contract breach) and positive perceptions (organizational justice) are reinforced.

In considering the complex interrelationship between the economic and noneconomic aspects of hospital-physician relationships, we have demonstrated that neither can be considered in isolation. Instead, a holistic approach is necessary. First, we showed that mutual trust is an important social antecedent (Chapters 2, 4 and 6) and a critical concern of
both parties (Chapter 5). While economic integration strategies make it possible to align the interests of the physician by means of a contract, trust between both parties (the physician and the hospital) is necessary for financial risk to be shared. As described above, trust is built through the optimization of noneconomic relationships and lays the foundations of possible economic integration. Second, we studied the connection between contractual (economic) and relational (social) governance. Interestingly, we demonstrated that economic relationships also have an impact on relational governance (Chapter 4). Specifically, we found that drawing up a detailed contract can be interpreted as a sign of distrust and may evoke opportunism. This hinders the development of relational behaviour. When the HPR is chiefly governed by a contract, a transactional nature of the exchange is reinforced, installing an unhealthy me-them-and-us divide. This contrasts with an integrated view of the HPR grounded in mutual trusting relationships.

3. Theoretical Contribution

One issue in the study of HPRs is that most of the work done so far has been without the guidance of theory (Eposto, 2004). The application of theoretical insights into HPRs is therefore one of the main contributions of this thesis. Specifically, our research builds on two main theories.

On the one hand, in order to study the economic relationship, we derived our insights from the application of agency theory. The central concern of this theory is how a principal (the hospital) can best motivate an agent (the physician) to perform as the principle prefers. The aim is to reduce opportunism on the part of the agent by drafting an optimal contract that considers the financial risk. We have contributed in several ways to this body of knowledge. First, we have showed that, in order to study the economic relationship, the scope of the study needs broadening. The agency relationship between the hospital and the physician cannot be studied without considering the payer as the principle to the hospital and physician. Second, we have contributed theoretically by identifying and conceptualizing three important processes of provider’s financial risk bearing: risk shifting towards providers, risk pooling within physician groups and risk sharing between physicians and the hospital in
which they practice. This enables us to develop a holistic understanding of the economic relationship between the physician and the hospital.

On the other hand, the theoretical lens of social exchange theory was employed to study the noneconomic relationship. This theory is considered one of the fundamental paradigms for studying organizational behaviour. The main principle is that organizational members tend to reciprocate the (negative and positive) organizational treatment they perceive. We have contributed to this theory in three ways. First, noneconomic aspects were studied by the concept of the psychological contract. Second, building on the principle of ideological pluralism within the physician's psychological contract, we make a distinction between professional and administrative obligations. Third, the concepts of psychological contract, organizational justice, and leader-member exchange all have their theoretical roots in social exchange theory, but have primarily been investigated in isolation of each other and little integration of these concepts has been achieved.

Finally, we contribute to the theoretical integration of the noneconomic and economic relationships. Specifically, it can be argued that the economic agency approach is valuable for increasing insight into HPRs, this viewpoint can, however, be criticized in that it assumes human motivation is primarily based on self-interest and ignores the fact that economic transactions are embedded in social relationships (Ghoshal & Moran, 1996; Granovetter, 1985). It fails to recognize that physicians, as professionals, have a more complex set of motives underlying their behaviour (Kunz & Pfaff, 2002). Apart from economic rewards, intrinsic rewards provided by hospitals will fulfil, for example, socio-emotional needs. As such, the working experience is made up of a complex array of features (Edwards, 2009). Although both dimensions are considered important, discussion of the interconnection between them is absent from the literature. From a theoretical point of view, we have shown that organizational trust is an important social antecedent. In order to share financial risk, physicians must be willing to be vulnerable to actions of the hospital. The necessary organizational trust is built by improving the noneconomic relationship.
4. Methodological contribution

This dissertation relies on exchange theory to study the hospital-physician relationship. More specifically, to study noneconomic integration, we have built on the concept of the psychological contract. It is surprising that previous studies focusing on the hospital-physician relationship have not drawn more frequently on these theories. Moreover, it can be argued that both research streams (hospital-physician relationships as opposed to organizational behaviour) have developed parallel to each other. Our contribution, then, lies in integrating both. Specifically, previous research into the psychological contract shows a divide between that focusing on the content of the psychological contract and that concentrating on the evaluation of the psychological contract.

4.1 The content of the psychological contract: qualitative design

Most research into the psychological contract relies on a quantitative approach. However, given the lack of knowledge of the psychological contract in our highly specific research setting (the context is depicted in the introduction), we argue here that a qualitative exploratory investigation focusing on perceived mutual obligations cannot be dispensed with. In this dissertation, a qualitative exploratory research design is used (a) to investigate the content of the psychological contract between physician and hospital, (b) to identify mutual obligations and areas of ambiguity within the psychological contract and (c) to examine the meaning and importance of reciprocity in the hospital-physician relationship. Furthermore, from a methodological point of view, it is also important to realize that there have been very few studies that have included the side of the organizational member of the psychological contract (Conway & Briner, 2005). Following Winter & Jackson (2006), both views were included so as to capture the perspective of both the hospital and the physician on the psychological contract and thus to assess the mutuality between the two parties to the exchange relationship (Coyle-Shapiro & Kessler, 2000).

4.2 The evaluation of the psychological contract: quantitative design

In addition, this dissertation relies on a quantitative research design that enables us to investigate the theory-driven and qualitatively hypothesized relationships among the
variables objectively, including moderation. This would be impossible through qualitative research alone. Specifically, the quantitative design enables us (a) to determine the relative importance of the different dimensions in the psychological contract of physicians (economic versus administrative versus professional aspects), (b) to assess the outcomes of psychological contract evaluation and organizational justice in terms of the realized physician-hospital alignment, (c) to assess the role of the antecedents of the social exchange (LMX Chief Medical Officer and organizational trust) on the evaluation of the psychological contract by the medical specialist.

From a methodological point of view, we have provided two major contributions to the literature.

First, we have improved the instrument of Bunderson, Lofstrom and Van De Ven (2000). More precisely the validated scale of these researchers consists of a score calculated as the algebraic difference between what was promised and what was delivered. Respondents are asked to indicate whether specific obligations existed on the part of their organizations. Subsequently, they indicate the extent to which the organization has fulfilled each obligation. Thereafter, a difference score is calculated describing the discrepancy between the perceived obligations and the actual inducements by the organization. However, it has been argued that the use of difference scores is often problematic because of the methodological problems associated with the method (Arnold, 1996; Edwards, 2001; Freese & Schalk, 2008). Specifically, difference scores are considered less reliable (Johns, 1981) and often have more problems in the areas of discriminant validity, spurious correlations and variance restriction (Peter, Churchill, & Brown, 1993) than direct measures of breach. Therefore, we adjusted the instrument of Bunderson (2001) with respect to the way the breach was rated by the use of explicit questions that asked for the extent to which the hospital fulfilled or broke its obligations to the physician.

Second, although there is a large body of research examining the importance of psychological contract breaches, organizational justice and social exchange (LMX and trust)—and although the different constructs have been distinguished both conceptually and empirically—the relationship between the different constructs has not received similar attention. For example, it is not entirely clear how perceptions of the social context of organizations affect the consequences of the perceptions of organizational justice (Wang,
Liao, Xia & Chang, 2010) or psychological contract breach (Dulac, Coyle-Shapiro, Henderson & Wayne, 2008). We contribute to the literature by studying these relationships.

4.3 Limitations and future research opportunities

4.3.1 Methodological considerations

In the quantitative studies of this dissertation, we examined the hospital-physician relationship by means of cross-sectional studies. The cross-sectional nature of our study precludes strong claims of causal effects. To understand the interaction between economic and noneconomic aspects of the hospital-physician relationship better, future research should use longitudinal research designs. Physicians provided information on both the independent and dependent variables and the use of a common method (a questionnaire) to collect data could lead to bias. However, we reduced the potential for common-method variance by (1) employing measures based on existing scales, (2) proximally separating measures of predictors and the criterion variables and (3) protecting the respondents’ anonymity. Additionally, Harmon’s single-factor tests using exploratory factor analysis were conducted. The results showed that none of these factors accounted for the majority of the covariance among the items. Thus, common-method bias was not a serious threat to our analyses (Podsakoff et al., 2003). By collecting the outcome data independently of the perceived social exchange, single-source bias could be circumvented and the design of the study could be improved. Similarly, it would be valuable to examine the effect on clinical performance of physicians. Furthermore, the support for our model derived from theory and previous research is encouraging, and suggests that further research is warranted. Finally, previous researchers have regularly encountered poor response rates when surveying physicians (Templeton et al., 1997). The results of our two quantitative studies should be interpreted carefully on account of the relatively low response rate. Replicating these studies with a larger sample and a higher response rate would be valuable.

4.3.2 Clinical Integration

This dissertation focused on economic and noneconomic aspects of HPRs. Future research should also focus on clinical aspects of the HPR. Clinical integration refers to hospitals’ structures and systems for coordinating patient care services across people, functions,
activities and sites over time (Burns & Muller, 2008). Clinical integration is argued to be causally dependent on the development and successful execution of economic and noneconomic integration (Trybou, Gemmel & Annemans, 2011). Moreover, clinical integration is the most important aspect of an integrated delivery system, as it entails a coordination of the continuum of care that directly interfaces with patients (Shortell, Gillies, Anderson, Erickson & Mitchell, 1996). Therefore, a study focusing on the clinical aspects of the HPR and on the interrelationship with economic and noneconomic integration is an important avenue for future research.

5. Practical implications

5.1 Managerial practice

Physicians have a centrally important function in hospitals and consequently have a critical impact on hospital performance. They have a monopoly in several major decision areas (such as the decision to admit or discharge patients, to prescribe pharmaceuticals and to perform clinical procedures). Additionally, in making these decisions, medical doctors put many other processes in motion (e.g. nursing care, administration and logistics). Therefore, hospital-physician relationships should be at the centre of attention of hospital executives. However, the insights developed by our qualitative interviews, supplemented by (informal) conversations with physicians and executives and the consultancy-related observations of the author, show that management of HPRs is in its infancy in many hospitals.

This dissertation shows that the reductionist view of HPRs, limited to the contractual or financial relationship, is far too narrow and even represents an impoverished view. Effective hospital-physician relationships are rooted in adding value to the day-to-day activities of medical staff members. Optimizing the hospital towards an efficient, effective and agreeable work setting (from the physician’s point of view) can be considered a strategic priority for hospital management. In case of the economic relationship, it is indeed important to note that physicians are predominantly self-employed and that, from an operational perspective, an economic trade-off exists between the hospital and the physician. Importantly, however, we demonstrated that physicians reciprocate perceived high-quality HPRs. In this respect, the relationship has important implications for hospitals’ ability to attract, retain, align and motivate physicians. To stress the importance of this issue, we list the contextual factors that
contribute to this priority. First, in response to financial pressures, hospitals attempt to implement economies of scale and to adopt strategies aimed at increasing the flow of patients into the hospital. The primary strategy has been to increase the number of physicians who practice at and admit patients to the hospital. Second, hospitals are confronted with a chronic physician shortage and an increase in the demand for care. Third, in light of the developments in minimal invasive surgery, improved anaesthetics, diagnostic capabilities and pharmaceutical possibilities, specialized facilities emerge as alternative settings of medical care delivery. These developments highlight the importance of physician-friendly hospitals.

One avenue available to hospitals to strengthen their relationships with physicians actively is the development of an internal physician liaison program to promote HPRs (i.e. by informing and involving physicians to a greater extent in hospital management and policy issues). One compact that clinicians might favour is that hospitals should seek management with physicians and not management of physicians (Burns & Muller, 2008). Moreover, participative and responsive decision-making requires special attention. While a legal framework (the medical board) is in place to assure that the medical staff is represented at the hospital level (i.e. the medical board), the medical staff can be considered a heterogeneous group of physicians (a) with different needs and (b) frequently competing for scarce resources. Therefore, we advise hospital executives to invest and develop a medical structure that will bridge these difficulties actively. Apart from involving an adequate number of physicians, this also implies providing these physicians with the necessary support of complementary skills (e.g. to support physicians in drafting strategic plans) and the support required to develop the necessary leadership and management skills (i.e., through guidance and coaching). This will enable these physicians to build trusting and satisfying relationships with the members of the medical staff. This argument is also substantiated by the centrally important role of the CMO in governing the hospital-physician relationship. This provides the opportunity to buffer the effects of negative experiences and to reinforce the effects of positive perceptions.

In determining hospital-physician contracts, the corresponding impact on the working relationship should be considered. While the financial alignment of physicians would seem to be valuable from an economic perspective, hospital managers (and trustees) should
consider the corresponding noneconomic impact. Our study shows that the development of a rigorous cost-allocation system reinforces the dualism installed by the payment framework and legislation (specifically the organizational structure). In other words, it does not stimulate an integrative perspective. In addition, it can be argued that laying too heavy an accent on contractual governance can be detrimental to the development of relational behaviour. A detailed contract can be interpreted as a sign of distrust or may evoke opportunism and thus hinder the development of relational behaviour. Bearing in mind that it is impossible to draft complete and comprehensive contracts, that a large asymmetry of information and knowledge is present and that the physician has the right to self-control over his or her work activities (professional autonomy), we consider this a valuable and counterbalancing insight. In light of these findings, gain sharing (on an organizational level) is a financial instrument that may be worth considering. Specifically by sharing the financial gains realized by a reduction in physician-induced hospital costs, physicians’ interests become aligned and an integrative financial view is stimulated.

5.2 Health policy

When considering the economic relationship, it is clear that the current fragmentary payment framework, characterized by the dual split in payment, extensive physician deductions and unaligned incentives tends to sour hospital-physician relationships. More specifically, the various funding sources (i.e. hospital budget and medical fees) are characterized by specific problems and difficulties and the interaction between the financial flows is also problematic\(^{11}\).

First, when considering the current hospital budget, inadequate reimbursement of costs induces significant imbalances in hospital finance. More precisely the inadequate reimbursement of essential labour costs undermines the current system. Since 44% of the

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\(^{11}\) We note that the impact of the payment framework on hospital-physician relationships is significant and the associated problems are considered one of the main driving forces for developing a new financing system. However, the need for a reform is also initiated by other challenges such as the financial sustainability of our healthcare system and the possibility to introduce incentives for quality of care. It is not our intention to provide a complete overview of all policy aspects related to hospital finance. More precisely, in this paragraph we aim to provide policy directions directly related to hospital-physician relationships.
hospital income is spent on the remuneration of hospital staff (e.g. nurses), this has a major impact on the financial management of hospitals. Figure 7.2 provides an exemplary overview and illustrates that the financial margins of the nursing wards are predominantly negative. Moreover this contributes to a large extent to the hospital budget deficit and therefore increases the need of significant physician financial contributions (deductions of the medical fees). The figures in the table illustrates the positive margins in the medical departments. We therefore argue that an adequate reimbursement of hospital costs is the first pillar of improving hospital finance. This will limit the need for cross-financing hospital activities [costs] not directly related to the medical activities of physicians by means of deductions of the medical fees.

<table>
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<tr>
<th>Financial Margin (%)</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td></td>
<td>Aggregated Mean</td>
<td>Aggregated Mean</td>
</tr>
<tr>
<td><strong>Nursing Wards</strong></td>
<td>-3.1</td>
<td>-4.3</td>
</tr>
<tr>
<td>Medical Departments</td>
<td>8.7</td>
<td>8.6</td>
</tr>
<tr>
<td>- Radiology</td>
<td>15.8</td>
<td>15.7</td>
</tr>
<tr>
<td>- Laboratory</td>
<td>13.1</td>
<td>12.4</td>
</tr>
<tr>
<td>- Physiotherapy</td>
<td>-6.8</td>
<td>-5.8</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>7.3</td>
<td>7.9</td>
</tr>
<tr>
<td>Consultations</td>
<td>-8.2</td>
<td>-8.8</td>
</tr>
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7.1: Financial margin of hospital departments (Belfius, 2012)

Second, when considering the medical fees, an increasing level of income inequity is perceived between different medical specialisms. Moreover, as a result of insufficient reviews and updates in line with the development of medical science and practice, the fees for several procedures have gradually acquired a historical character and do not any longer reflect the actual efforts made (and cost incurred) by the physician. Therefore, physicians with relatively few technical activities—the ‘nonproceduralists’ (such as paediatricians and geriatricians)—have come to earn a lower income than physicians with many technical activities—the ‘proceduralists’ (such as cardiologists, radiologist etc.). Not surprisingly, this unfair difference in income gives rise to tensions between physicians (and because of the impact of the deductions on the level of income also between physicians and hospitals). Health policy makers are thus advised to develop a more equitable system of physician fees. We consider this as the second pillar of improving hospital finance. Bearing in mind the macroeconomic and financial context, we argue that a key issue of the needed reform is to
determine a fair and reasonable level of income for physician-specialists. In the next pages we describe three (reinforcing) principles that could guide policy makers in reforming the payment framework of medical fees.

As a first step an equitable system of physician reimbursement requires a thorough and substantiated analysis of current medical practices, physician efforts and the associated costs. Figure 7.2. provides an (non-exhaustive) overview of aspects that can be considered.

As a second step policy makers will have to develop a coherent vision on the principles of reimbursement of the associated costs. One valuable avenue to consider is to limit reimbursement of the associated costs to physicians for in-hospital care (by including these costs in hospital budgets), thereby minimizing the needed deductions. This would refocus the scope of physician fees to primarily the intellectual efforts.

![Figure 7.2: Evaluating medical fees (Based on Trybou, 2011)](image)

As a third step health policy makers are advised to develop a more integrated view of physician reimbursement. The integration focuses on two dimensions. The first is the ‘level’ of payment or the degree of integration with other payments made to physicians throughout the care process of a particular patient. The second is the degree to which physician payments are bundled to hospital reimbursement.

When considering the level of payment, two characteristics should be considered (Jegers et al., 2002). On the one hand, there is the link between the provider’s income and his activity. On the other hand, there is a link determining whether the provider’s payments are closely
related to his actual efforts or not. The most frequently used levels are per service, per diem, per case, per patient and per period\textsuperscript{12}. Figure 7.3 provides a conceptual overview.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure73}
\caption{A typology of physician fees (based on Jegers et al., 2002)}
\end{figure}

The current physician payment framework is predominantly based on the principle fee-for-service. This leads to overuse and misuse of services and underuse of services not adequately remunerated (McGuire, 2009). In a prospective payment system the opposite occurs: in general it discourages the provision of care (Cutler, 2004) and induces selection effects (Eggleston, 2005). Therefore, a carefully balanced remuneration system, aligned with societal goals should be developed. Moreover, from a health-economic point of view, physician remuneration should reflect a focus on cost-effectiveness, provider accountability and high quality care. However, in an equitable system (from a physician point of view) physicians’ income should vary only to a limited degree due to factors beyond their control. Since the number of activities performed by physicians can differ to a certain extent due to unexplained variability and uncertainty (not controlled by physicians) we advise to develop a mixed (and thus balanced) system\textsuperscript{13} which progressively includes a higher share of per case payments (to build trust in the system and to facilitate acceptance by the stakeholders). Figure 7.4 provides a conceptual overview of the risk associated with the different levels of payment. In addition we argue that risk sharing between physicians and the third party

\textsuperscript{12} We note that on top of these base payment, additional incentives are preferably applied (i.e. pay for performance).

\textsuperscript{13} We note that by shifting the associated costs (e.g. of equipment, materials, supporting staffs) towards the hospital budget we also limit the financial risk for physicians. The financial risk born by physician(group)s is therefore prevailingly limited to opportunity costs.
payer could help to limit physician risk baring. More precisely, a system analogous to hospital DRG financing can be developed, in which extreme cases that induce a significant higher physician workload are compensated additionally in order to limit opportunity costs and financial risk of physicians. Finally we note that the physician group level also provides the possibility to pool financial risk\(^3\) within medical groups. Moreover medical groups foster shoulder-to-shoulder practice which can contribute to improving the quality of care (given the growing importance of peer-review and interdisciplinary care).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure74.png}
\caption{Physician fees and financial risk bearing (Averill et al, 2010)}
\end{figure}

Second, the relation between hospital and physician reimbursement should be considered. Importantly when considering the dual split in payment between physician and hospital, besides the deductions, conflicting incentives between physicians and hospitals were often cited as major obstacles to effective collaboration. Therefore it is important to consider how physician fees should be compared to the reimbursement of hospitals. The current fragmentary structure characterised by several consultative bodies installs different silo’s and hinders an integrative view on hospital finance.

More precisely, the dual split in payment between physicians and hospitals is also reflected in the way they act in consultative bodies and commissions\(^{14}\). Nevertheless, it is clear that

\(^{14}\text{De medico-mutualistische overeenkomstencommissie vs. de diverse organen voor overleg tussen ziekenhuis en overheid en/of verzekering instellingen.}\)
the decisions made in consultation with physicians have an impact on hospitals and the decisions made in consultation with hospitals can affect physician practices. This illustrates the fragmented structure of our current system. The new financing system is preferably supported by an overarching consultative body with representation of both hospitals and physician-specialists, as well as other stakeholders.

Finally, when reflecting on the economic relationship between physicians and hospitals, it is important to note that physicians hold a strong position in hospital policy and management. One key aspect is the significant financial contribution by physicians to the hospital. While this creates tensions between executives and physicians, it enables physicians at the same time to weigh significantly on hospital policy and management. Financial pressures on hospitals are altered and since the physician is (a) to some extent isolated from the pressures to increase efficiency and cut costs and (b) the primary enforcer of quality of care (given the fiduciary patient-physician relationship), this is arguably a valuable dynamic. Yet at the same time, there is a delicate balance and this issue should be included when the current financing system is evaluated and alternatives are developed. Concrete possibilities (ensuring hospital management with physicians) are to reinforce physician participation in hospital management and policy by reimbursing these efforts, strengthen physician leadership in hospitals by supporting the development of (and remunerating) physician middle management and/or to broaden the authorization of the medical board (expand the domains of hospital policy requiring mandatory or binding advice).
6. Conclusion

Chapter 2 studies the complex issue of provider accountability in greater depth. Risk shifting, risk pooling, and risk sharing were identified as important processes. To develop a thorough understanding, a holistic view is needed. However, when the available literature is examined, it becomes clear that at this time the relationship between provider accountability and physician hospital-integration can be supported only on the basis of our theoretical insights and experience but not by empirical research. Building on this framework, we perform a methodological analysis of previous research. Previous studies have measured provider accountability in a fragmented way and have primarily concentrated on the prevalence of joint contracting between physicians and hospitals in a managed care environment. Future research should focus on increased cooperation between hospital and physicians, which ultimately leads to added value.

In Chapter 3, the importance of noneconomic integration and the relation with economic integration was studied. Noneconomic integration contributes directly to physician-hospital alignment through the norm of reciprocity and also indirectly by building trust with the medical staff, which lays the foundation for alignment of financial incentives. Trust should therefore be considered a key antecedent in physician-hospital integration. Furthermore, our framework has been developed with financial risk as a second key antecedent factor that plays an important role. Specifically, the financial risk installed by increased provider accountability introduces and increases the financial risk bearing of physicians and hospitals. This is therefore identified as a driving force towards closer integration.

Chapter 4 aims to investigate the contractual mechanisms in Belgian physician-hospital exchanges in greater depth. Employing a study of the available theory (agency theory and social exchange theory), conceptual reasoning and two case studies, we identify several important aspects of physician-hospital contracting. We found that, besides the economic aspects of the transaction itself, the relationships that are established based on the transaction taking place are of major importance. A distinction can be made between transactional and relational exchanges and this should be considered when determining the
contract. Moreover, the contract determines the financial solidarity between physicians and the hospital and between medical staff members.

In Chapter 5, we build on psychological contract theory to develop an in-depth understanding of how physicians and hospital executives in Belgium experience and interpret obligations in their working relationship. Our analysis yielded a rich understanding of mutual obligations and areas of ambiguity. A distinction should be made between administrative obligations (such as adequate operational support and responsive decision-making) and professional obligations (e.g. clinical excellence and physician autonomy). Two areas of ambiguity could be identified reflecting both dimensions. An economic trade-off exists in the day-to-day interactions between physicians and hospitals, and so views on how care should be organized differ. In addition, the extent to which medical decisions should take into account the effect on hospital finance varies.

In Chapter 6, the concepts of psychological contract and organizational justice are used to describe the economic and noneconomic exchanges between physicians and hospitals. Specifically, the importance with respect to several key organizational attitudes of physicians (satisfaction, affective commitment, and intention to leave) is investigated. When considering the psychological contract, a distinction is made between professional and administrative obligations. Both procedural justice and distributive justice are considered when studying the contractual relationship. In addition, the moderating influences of the quality of exchange with the Chief Medical Officer and organizational trust are studied.
7. References


Samenvatting

De relatie arts-ziekenhuis is een belangrijk academisch onderzoeksthema en vormt een belangrijke bekommernis voor artsen, ziekenhuismanagers en beleidsmakers. Hoewel zelfstandige artsen formeel geen lid zijn van de organisatie, bekleden deze professionals een centrale rol in ziekenhuizen en nemen ze autonoom medische beslissingen. Daarom hebben artsen een belangrijke impact op de financiële gezondheid van het ziekenhuis, kwaliteit van zorg en kwaliteit van dienstverlening. Naast hun belang op vlak van het management van ziekenhuizen staat de relatie arts-ziekenhuis in vele landen hoog op de hervormingsagenda van het gezondheidszorgbeleid. Meer concreet zoeken beleidsmakers omwille van steeds groeiende gezondheidsuitgaven en problemen op vlak van kwaliteit van zorg naar manieren om de kosteneffectiviteit van de tweedelijnsgeneeskunde te verhogen. Het samenwerken van ziekenhuizen en medische staf vormt hierbij een belangrijke succesfactor om de zorg op een betere manier te organiseren en coördineren.

Hoewel ziekenhuizen en artsen op het eerste zicht naar dezelfde doelstelling toe werken (het verbeteren van de gezondheid van patiënten), overlappen de belangen van beide partijen slechts gedeeltelijk en zijn deze aldus niet gealigneerd. In deze doctoraatsthesis verwijst alignatie naar de mate waarin ziekenhuis en artsen dezelfde doelen en objectieven delen en samenwerken tot het bereiken van deze doelen en objectieven. Het is hierbij belangrijk op te merken dat alignering geen doel op zich vormt maar dient gezien te worden als een manier om de performantie te verhogen en als een voorwaarde om de toegevoegde waarde te verhogen voor de twee belangrijkste belanghebbenden, patiënt en maatschappij.

In dit proefschrift bouwen we verder op de twee hoofdbenaderingen die in de literatuur conceptueel werden uitgewerkt. De eerste benadering is gebaseerd op de economische literatuur waarbij alignering wordt bewerkstelligd op ‘harde’ financiële wijze (economische integratie). De tweede benadering vertegenwoordigt een meer ‘zacht’ sociologisch perspectief met de nadruk op het samenwerkend karakter van de relatie arts-ziekenhuis (niet-economische integratie). Dit doctoraat heeft als doel om een beter en holistisch inzicht te verschaffen in beide zienswijzen van de alignatie arts-ziekenhuis.

In het eerste hoofdstuk bespreken we de specifieke context en algemene karakteristieken van de relatie arts-ziekenhuis in België. Meer specifiek tonen we aan waarom een onderzoek
met als expliciete focus de alignering tussen arts en ziekenhuis gerechtvaardigd is. In een eerste fase (hoofdstuk 2) werd een geïntegreerd conceptueel model uitgewerkt. Financieel risico en vertrouwen werden hierbij geïdentificeerd als twee belangrijke antecedenten. Daarnaast ontwikkelen we het theoretisch inzicht dat niet-economische integratie aan de basis ligt van alignatie tussen arts en ziekenhuis. Enerzijds draagt het direct bij tot alignering door het wederkerigheidsprincipe. Anderzijds draagt het indirect bij door het opbouwen van vertrouwen en daardoor tot het bevorderen van economische integratie.

Gezien het betalingssysteem bij het onderzoeken van de relatie arts-ziekenhuis niet kan worden genegeerd, focust het volgende hoofdstuk (hoofdstuk 3) op de interactie tussen beide. Meer concreet zoomt dit hoofdstuk in op de wijze waarop zorgverstrekkers financieel risico dragen voor de verstrekte zorgen en de mate waarin dit een impact heeft op de integratie tussen arts en ziekenhuis. De beschikbare studies werden in deze studie op een systematische manier geëvalueerd en getoetst aan de theoretische inzichten ontwikkeld op basis van de principaal-agent theorie. In deze studie werden drie belangrijke aspecten en processen van financieel risico gedragen door zorgverstrekkers geïdentificeerd: het verschuiven van financieel risico naar verstrekkers, het bundelen van risico op niveau van artsgroepen en het delen van risico tussen arts en ziekenhuis. Onze systematische analyse van vorig onderzoek toont aan dat de relatie tussen integratie en financieel risico voor het ogenblik enkel kan worden ondersteund door theoretische inzichten en ervaringen en niet door empirisch onderzoek. Meer specifiek hebben vorige studies het concept van financieel risico op een gefragmenteerde en incomplete manier gemeten en hebben deze studies zich voornamelijk geconcentreerd op het samen contracteren van artsen en ziekenhuizen met verzekerders in het competitiemodel van de Verenigde Staten. Deze formele intermediaire structuren (organisatiemodellen typisch voor de US context) die meestal geen verhoogde samenwerking tussen arts en ziekenhuis betekenen stonden hierbij centraal als meting van de integratie.

Deze twee eerste studies werden gevolgd door drie empirische studies die zich richten op de economische en niet-economische relatie tussen arts en ziekenhuis.

In de eerste empirische studie (hoofdstuk 4) werd gebruik gemaakt van een vergelijkende case-study methodiek met als doel de contractuele relatie en dynamiek tussen arts en
ziekenhuis te onderzoeken. We tonen aan dat, naast het financieel-economisch aligneren van de incentieven van artsen met die van het ziekenhuis, de relaties die gevormd worden op basis van de overeenkomst van cruciaal belang zijn. We maken hierbij een onderscheid tussen een transactionele en relationele manier van handelen. Daarnaast werden vertrouwen en constructieve relaties als fundamenteel belangrijke karakteristieken van effectieve relaties tussen artsen met hun ziekenhuis geïdentificeerd. Echter, deze relationele kwaliteiten zijn voor het ogenblik bedreigd en zelfs moeilijk te realiseren gezien de spanningen die het huidige betalingssysteem met zich meebrengt. Meer specifiek verzieken de duale wijze van financiering, de niet-gealigneerde incentieven tussen artsen en het ziekenhuis en de onrechtvaardige verschillen op vlak van het inkomens van artsen de relatie tussen arts en ziekenhuis. Om te besluiten concluderen we dat de impact van de contractuele, financiële afspraken op de onderliggende (werk)relatie niet kan genegeerd worden. Een relationele manier van het uitwisselen van diensten stimuleert een geïntegreerde visie op de relatie arts-ziekenhuis en vormt daarom een waardevol alternatief voor een reële kostenregeling.

In de tweede empirische studie (hoofdstuk 5) werd een kwalitatieve onderzoeksmethode gehanteerd. Artsen en directieleden van drie ziekenhuizen werden geïnterviewd met als doel een diepgaand en rijk begrip van de niet-economische relatie te ontwikkelen. Hierbij werd verder gebouwd op de theorie van het psychologisch contract. Het mutueel karakter van gepercipieerde verplichten en verschilpunten tussen percepties werden onderzocht. Twee hoofdthema’s werden in deze analyses onderscheiden. Enerzijds dient een onderscheid gemaakt te worden tussen organisatorische verplichtingen (adequate ondersteuning en het responsief maken van beslissingsprocessen) en professionele verplichtingen (het nastreven van klinische excellentie en het vrijwaren van de medische autonomie). Deze dimensies werden ook weerspiegeld door de grijze zones in het psychologisch contract. Op organisatorisch vlak bestaat een trade-off in de dagdagelijkse interactie tussen arts en ziekenhuis waardoor de zienswijze waarop de zorg dient te worden georganiseerd soms verschilt. Daarnaast is ook een verschil aanwezig tussen directieleden en artsen op vlak van de mate waarin artsen rekening dienen te houden met het ziekenhuisperspectief bij het nemen van beslissingen.
In de derde empirische studie (hoofdstuk 6) focussen we op de impact van percepties van artsen op vlak van het psychologisch contract (niet-economische relatie) en organisationele rechtvaardigheid (toegepast op de economische relatie) op de attitudes en extra-rol gedrag van artsen. Op vlak van het psychologisch contract wordt een onderscheid gemaakt tussen professionele en organisatie-gerelateerde dimensie. De economische relatie wordt bestudeerd door middel van de gepercipieerde rechtvaardigheid van de wijze waarop de overeenkomst tot stand komt alsook het eigenlijke contract. Daarnaast wordt ook de impact van sociale relaties hierop bestudeerd. Meer concreet wordt de moderatie van de kwaliteit van de interactie met de hoofdgenesheer en de mate van vertrouwen in de organisatie nagegaan. Onze resultaten toonden aan dat er inderdaad een relatie is tussen het verbreken van het psychologisch contract en organisationele rechtvaardigheid en de attitudes van artsen. Dit staat in tegenstelling tot extra-rol gedrag waarbij enkel een relatie met de organisationele rechtvaardigheid aanwezig is. Daarnaast tonen de resultaten dat de kwaliteit van de relatie met de hoofdarts als erg belangrijk kan worden beschouwd. Meer concreet wordt de negatieve impact van het verbreken van het psychologisch contract gebufferd en worden de positieve effecten van organisationele rechtvaardigheid versterkt. Voor de mate van vertrouwen in de organisatie was dit enkel het geval voor de attitudes (en niet extra-rol gedrag).

Het laatste hoofdstuk vat de academische, theoretische, methodologische en praktische implicaties (voor ziekenhuismanagers en beleidsmakers) van dit proefschrift samen (hoofdstuk 7). Tot slot bespreken we de beperkingen van dit onderzoek en geven we een aantal suggesties voor toekomstig onderzoek.
Summary

Hospital-Physician Relationships (HPRs) are an important area of academic research and a key concern of physicians, hospital managers and health policy makers. While self-employed physicians are not formal members of the organization, these professionals play a central important role in hospitals and enjoy a monopoly in several major clinical decision areas. Therefore physicians have a major impact on hospitals’ financial performance, quality of provided care and service delivery. Besides their managerial importance, HPRs are at the center of attention of international health policy reform. Moreover, in response to continuously rising health care expenditures and persistent gaps in the quality of delivered care, health policy makers are looking for ways to increase cost-effectiveness of secondary care delivery. Arguably, to be successful most of these reforms must rely on collaboration between hospitals and their medical staffs to organize and coordinate care and deliver it efficiently within budgetary limits.

While at first sight hospital and physicians strive for the same goal (improving the health of patients), a closer look shows that the interests of the two parties overlap only partly and are thus not fully aligned. In this dissertation the concept alignment refers to the degree to which physicians and hospital share the same goals and objectives and work towards their accomplishment. However it is important to note that in our view alignment cannot be seen as an end in itself but rather as a means for improving performance of secondary care and a precondition for creating additional value for the two main stakeholders, patients and society.

In this thesis we build further on two main approaches that have been conceptualized in the literature. The first approach is rooted in economic literature in which alignment is realized by ‘hard’ financial means (economic exchange). The second represents a more ‘soft’ sociological perspective, emphasizing the cooperative nature of their relationship (noneconomic exchange). The main aim of this doctoral thesis is to develop an in-depth and holistic understanding of both types of physician-hospital alignment.

In the first chapter we discuss the context and main characteristics of the HPR in Belgium. Specifically in this introduction we describe the highly specific context of HPRs and outline why a dedicated research effort is justified. We started this research effort by developing an
integrative conceptual framework of physician-hospital alignment (chapter 2). Risk and trust are identified as two key antecedents. In addition we show that noneconomic integration lies at the very basis of alignment. Moreover it contributes directly to alignment through the norm of reciprocity and indirectly by building trust with the medical staff, laying the foundation for alignment of financial incentives. Since the payment framework in place cannot be neglected when studying the HPR we continue by evaluating the evidence base and studying the relationship between provider accountability and physician-hospital integration from a theoretical point of view (chapter 3). In this study, we identify three important aspects of provider financial risk bearing: risk shifting towards providers, risk pooling within physician groups and risk sharing between physicians and the hospital in which they practice. However, our systematic analysis of previous research shows that the relationship between accountability and integration can at this time be supported merely on the basis of these theoretical insights and experience rather than empirical research studies. Moreover, previous studies have measured provider accountability in a fragmented, incomplete way and have primarily concentrated on the prevalence of formal physician-hospital arrangements with the sole purpose of joint bargaining in a managed care environment without realizing increased collaboration.

These first two studies were followed by three empirical studies focusing on the economic and noneconomic perspective of physician-hospital alignment. In the first empirical study (chapter 4) two comparative case-studies were performed to investigate the contractual mechanisms in physician-hospital exchanges. We show that, besides aligning economic incentives associated with physician-hospital exchanges, the relationship established on the basis of the transactions taking place is crucial. Moreover, we make a distinction between transactional and relational exchange. In addition mutual trust and constructive relationships were identified as foundation-building characteristics of effective HPRs. Yet these relational qualities are under threat and may be difficult to sustain given the dual split in payment between self-employed physicians (medical fees) and the hospital they practice at (hospital budget), the unaligned incentives installed by the fragmented payment framework and unfair differences in physicians’ income. Since the corresponding impact of economic alignment on physician-hospital working relationships cannot be neglected we conclude that relational exchanges are a valuable alternative, stimulating an integrative view
of the HPR. The second empirical study comprises a qualitative study of the noneconomic relationship. Physicians and executives of three hospitals were interviewed. Drawing on the concepts of psychological contract theory we develop a rich understanding of mutual obligations and areas of ambiguity in the HPR. Two major themes emerge from the analysis. A distinction should be made between administrative obligations (adequate support and responsive decision making) and professional obligations (clinical excellence and physician autonomy). Two areas of ambiguity can be identified reflecting both dimensions. An economic trade-off exists in the day-to-day interaction and therefore views on the way care should be organized differ. In addition, the extent to which medical decisions should take into account the impact on hospital finance varies between physicians and executives. In the third empirical study (chapter 6) we focus on the impact of administrative and professional psychological contract breach and distributive and procedural organizational justice on physicians’ organizational attitudes and Organizational Citizenship Behaviors (OCBs). In addition we turn our attention to the moderating effects of the quality of exchange with the Chief Medical Officer (CMO) and organizational trust. Our results confirm a relationship between both psychological contract breach and organizational justice and physicians’ organizational attitudes. In contrast to organizational justice, no relationship was found between psychological contract breach and OCB. Quality of exchange with the CMO and to a more limited extend organizational trust buffered the negative effect of psychological contract breach and reinforces the positive effects of organizational justice with respect to physicians’ organizational attitudes. Importantly, when OCB is considered, only a relationship with organizational justice was present, which was moderated by the quality of exchange with the CMO. Physicians who experience low levels of quality of LMX were less affected by perceptions of justice, whereas the work behaviors decreased as justice decreased among physicians that experience high levels of LMX.

Reflections on the results and methodological issues of the different studies are put in a broader perspective in chapter seven, the general discussion. In addition implications for research and practice for both hospital managers and health policy makers are addressed. We conclude by discussing the limitations and avenues for future research.
Acknowledgements

Dit doctoraat is het resultaat van vijf jaar hard werken. Ik kijk terug naar een bijzonder leerrijke en verrijkende periode waarin ik mij verder heb kunnen ontwikkelen.

Bovendien werd ik omringd door heel wat mensen die elk op hun manier hebben bijgedragen tot dit doctoraat. De laatste pagina’s van dit proefschrift wil ik dan ook besteden aan het bedanken van een aantal mensen die elk op hun manier hebben bijgedragen tot dit doctoraat.

Vooreerst richt ik mij tot mijn beide promotoren Professor Paul Gemmel en Professor Lieven Annemans. Zonder jullie had ik hier vandaag niet gestaan. De inspirerende wijze waarop jullie je lessen verzorgen hebben mij vijf jaar terug in belangrijke mate gemotiveerd om deze uitdaging aan te gaan. Ook de wijze waarop jullie wetenschappelijke onderbouwde en hooggespecialiseerde kennis met praktijk en maatschappij delen vormen voor mij een voorbeeld. Veel dank ook voor het vertrouwen in mij en de vrijheid die ik doorheen dit traject kreeg om mijn eigen weg te zoeken. Ik hoop dat de goede samenwerking die we de afgelopen jaren hebben gehad zich verder zet in de toekomst.

Paul, de evolutie die ik de afgelopen jaren heb doorgemaakt is in belangrijke mate te danken aan jouw sturende hand. Je wijdde mij in het academisch métier en gaf richting wanneer nodig. De constructieve feedback op mijn teksten en de daaropvolgende inhoudelijke discussies hebben mij mee gevormd tot wie ik vandaag ben.

Lieven, jouw enthousiasme en gedrevenheid werkten doorheen dit traject motiverend. Bedank voor de begeleiding en het bijsturen van mijn werk. Daarnaast wil ik je ook expliciet bedanken om mij ook bij een aantal andere projecten te betrekken.

I am very grateful to the members of the examination committee. Professor Walter Sermeus, Professor Renaat Peleman, Professor Kristof Eeckloo, Professor Denis Chênevert and Professor Marc De Clercq thank you for devoting some of your valuable time to my dissertation. Your constructive feedback and comments are highly appreciated and undoubtedly improved this dissertation.
Van onmiskenbaar belang is ook de steun van mijn collega’s geweest. In eerste instantie denk ik hierbij aan mijn collega’s van de vakgroep Maatschappelijke Gezondheidkunde. In het bijzonder bedank ik mijn bureaucollega’s van de afdeling gezondheids econ om de steun van mijn collega’s van de vakgroep Maatschappelijke Gezondheidkunde. In het bijzonder bedank ik mijn bureaucollega’s van de afdeling gezondheidseconomie. Karolien, Nick, Lore en mijn maatje Delphine, dank voor de steun tijdens het ‘samen op weg zijn’ en de ontspannende pauzes. Daarnaast dank ik ook de collega’s van het Center voor Service Intelligence van de Faculteit Economie en Bedrijfs kunde. Het interdisciplinair bediscussiëren van ons onderzoek zorgt telkens voor nieuwe inzichten en inspiratie.

Ik heb mijn assistentenmandaat steeds gecombineerd met een andere functie. De eerste jaren fungerde ik als lector aan de Hogeschool-Universiteit Brussel. Dank aan deze collega’s om mij als jonge docent in jullie team op te nemen. Tot op vandaag de dag is het bij jullie nog steeds een beetje ‘thuis komen’. Ik ben dan ook tevreden om jullie als gastdocent en copromotor van diverse projecten te kunnen blijven ondersteunen. Sinds drie jaar combineer ik mijn mandaat aan de UGent met een functie als senior adviseur bij Probis Consulting. Actief zijn in de praktijk van management en beleid in de gezondheidszorg is voor mij een bijzonder verrij kende ervaring. Graag dank ik het managementteam voor het vertrouwen en ook de collega’s voor de aangename samenwerking.

Uiteraard wil ik ook mijn familie en vrienden bedanken. Jullie zorgden voor een ontspannende afwisseling van mijn professional activiteiten. Jullie waren er als het goed ging maar ook al het wat minder ging. Ik wil mijn vader en moeder nog eens extra bedanken voor alle kansen die ze mij hebben geboden. In het bijzonder bedank ik ook mijn vader voor het taalkundig nalezen van dit proefschrift en mijn andere publicaties.

Tenslotte gaat heel veel dank uit naar mijn vrouw. Sofie, je hebt het de afgelopen 12 jaar op zijn zachtst gezegd niet makkelijk gehad. Na het afstuderen aan de hogeschool besloot ik mijn universitaire studies aan te vatten, en dit in combinatie met een job in het ziekenhuis. Daarna heb ik steeds veeleisende functies met elkaar gecombineerd. Tot overmaat van ramp bleef ik ook nog volleybal spelen. Ik ben me er van bewust dat dit voor jou ook vaak eenzame tijden waren. Je hebt steeds in mij geloofd, je begrijpt mij, je steunt mij en helpt me waar mogelijk. Bedankt. Ik kijk er naar uit om met jou en ons zoontje aan een nieuw hoofdstuk van ons leven te beginnen.
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Publications of the author

**International peer-reviewed articles (A1)**


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Presentations


