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Privately Owned Hospitals

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Preface

Privatisation of hospitals, i.e. a change in their type of ownership from the municipal and private-non-profit[1] type to the private profit-oriented[2] type, has been the subject of heated debate ever since this development began back in the early 1990s. To objectivise this debate, the Fact Book „Significance of Privately Owned Hospitals") was prepared in 2009 using data from 2006. The aim was to provide a scientific assessment of hospital privatisation in Germany by presenting and evaluating relevant key ratios relating to the hospital market, differentiated by type of ownership.

The present, updated Fact Book aims i) to put the analyses already conducted using data from 2006 on the current 2009 data basis, ii) to throw light on additional issues, and iii) to limit the sampling to only those hospitals with a care mandate. Thus, university hospitals are not included because in addition to care delivery they also conduct research and teaching, with the result that their key ratios are not directly comparable with those of non-university hospitals. Likewise, purely psychiatric or psychotherapeutic as well as purely day-care and night-care clinics are kept out of the analysis. The Study thus confines itself to the empirically observable influencing factors of hospital privatisation. Naturally, this can only include some of all conceivable influencing factors.

We would like to thank Corinna Hentschker and Adam Pilny for their valuable assistance in preparing the Study. We also thank the German Federal Statistical Office (*Statistisches Bundesamt*) for providing official data and Anette Hermanowski, Julica Bracht, Ailine Lingnau, Claudia Lohkamp, Lutz Morgenroth, Daniela Schwindt and Benedict Zinke for their organisational help. The authors alone are responsible for the Study's content and any errors.

1 *Hereinafter referred to as non-profit.*

2 *Hereinafter referred to as private or also the "private facilities" or the "private hospitals".*

Privately Owned Hospitals

Contents

- Preface 3

1. Introduction 9

2. Special features of privately owned hospitals 11

3. Data basis 15

4. Detailed analyses of care hospitals 19
   - 4.1 Market shares 19
   - 4.2 Efficiency 19
   - 4.3 Earnings strength and investment capacity 24
   - 4.4 Participation in healthcare delivery 26
   - 4.5 Quality 31

5. Time series of general hospitals 37
   - 5.1 Efficiency 37
   - 5.2 Personnel 42
   - 5.3 Medical treatment 45
   - 5.4 Societal aspects 48
   - 5.5 Available capacities 50

6. Outlook 50

- Glossary 54

- Literature 56

List of diagrams

Diagram 1 Market volume and changes 9
Diagram 2 Number of inpatient cases and outpatient operations 10
Diagram 3 Minimum EBITDA margin 12
Diagram 4 Calculation of minimum EBITDA margin for private ownership type 13
Diagram 5 Gov't grants under the KHG 14
Diagram 6 Data basis of empirical studies 16
Diagram 7 Comparison of sample and selection of care hospitals 18
Diagram 8 Market shares of general hospitals 20
Diagram 9 Adjusted costs of general hospitals by ownership type 21
Diagram 10 Material costs of general hospitals 21
Diagram 11 Share of personnel costs in gross costs 22
Diagram 12 Case-mix points per full-time employee 22
Diagram 13 Number of cases per full-time employee 23
Diagram 14 EBITDA margins 24
Diagram 15 Investment capacity of hospitals 25
Diagram 16 Share of investment in total income 26
Diagram 17 Special item ratio 26
Diagram 18 Corporate income tax 27
Diagram 19 Corporate income tax and other tax per bed 27
Diagram 20 Average age of patients 28
Diagram 21 Average CMI 28
Diagram 22 Costs of medical supplies excluding drugs per case-mix point 29
Diagram 23 Costs of drugs per case-mix point 30
Diagram 24 Number of large medical technology units per bed 30
Diagram 25 Number of intensive care beds per 100 beds 31
Diagram 26 Hospitals with qualitative conspicuities 32
Diagram 27 Hospitals to be examined 32
Diagram 28 Share of satisfied patients 33
Diagram 29 Number of hospitals by rurality 34
Diagram 30 Probability of default by care type 36
Diagram 31 Probability of default by care type and rurality 36
Diagram 32 Projection of number of cases 51
Diagram 33 Expected staff requirement 52
Diagram 34 Expected costs per full-time employee 53

Contents

List of tables

Table 1 Selection settings „care hospitals and general hospitals“ 17
Table 2 Presence of private hospitals on German islands 34
Table 3 Distribution of the number of beds by basic, special and large providers as well as rurality 35
Table 4 Case-mix points per full-time employee 38
Table 5 Number of cases per full-time employee 38
Table 6 Number of cases per full-time employee (medical doctors) 39
Table 7 Number of cases per full-time employee (nursing services) 39
Table 8 Number of cases per full-time employee (non-medical services) 40
Table 9 Number of nurses per doctor 40
Table 10 Balance sheet data of general hospitals 41
Table 11 Investments in general hospitals 41
Table 12 Number of full-time employees in total 42
Table 13 Number of full-time employees (medical doctors) 42
Table 14 Number of full-time employees (non-medical services) 43
Table 15 Number of full-time employees (nursing services) 43
Table 16 Number of full-time employees (medical-technical services) 44
Table 17 Share of personnel costs in gross costs 44
Table 18 Share in costs of medical doctors in gross costs 45
Table 19 Share in costs of nursing services in gross costs 45
Table 20 Share in the number of deliveries by caesarean sections in all deliveries 46
Table 21 Share of number of stillbirths in all births 46
Table 22 Share in the number of outpatient operations pursuant to section 115b SGB V in all cases 47
Table 23 Share in the costs of medical supplies (excluding drugs) in gross costs 47
Table 24 Costs of medical supplies (excluding drugs) per case-mix point 47
Table 25 Share of costs of drugs in gross costs 48
Table 26 Share of costs of drugs per case-mix point 48
Table 27 Share of training costs in gross costs 49
Table 28 Number of intensive care beds per 100 beds 49
Table 29 Number of large medical technology units per 1 000 beds 50

List of boxes

Box 1 Privately owned hospitals treat just as many SHI patients 31

Privately Owned Hospitals

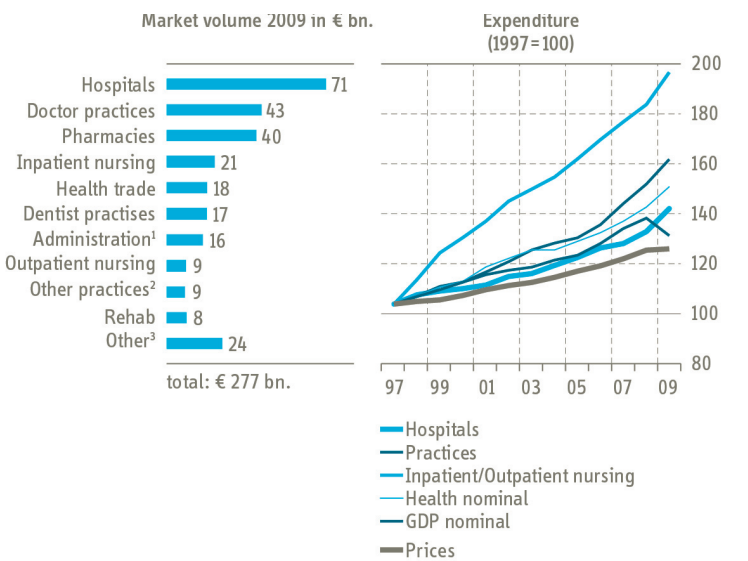
1. Introduction

The tremendous importance of the healthcare and hospital market has been cited time and again, not only in terms of providing high-quality and generalised care to the population but also in terms of its economic dimension as a major employer (Beivers and Minartz (2011b)). As Diagram 1 shows, the German healthcare market reached a volume of roughly € 277 billion in 2009. This implies growth of € 14 billion or 5.2% compared with 2008. What is remarkable is that this is the largest growth seen in the past 15 years. At the same time, gross domestic product plunged in the wake of the financial crisis, with the result that healthcare expenditure in 2009 for the first time accounted for 11.5% of GDP – up from 10.5% in the previous year (Augurzky et al. 2011). The hospital sector alone accounts for the biggest chunk of all sectors within the healthcare system, with a volume of some € 71 billion. That translates into a share of 25.6% in the aggregate healthcare market.

Diagram 1

Market volume and changes

1997 to 2009

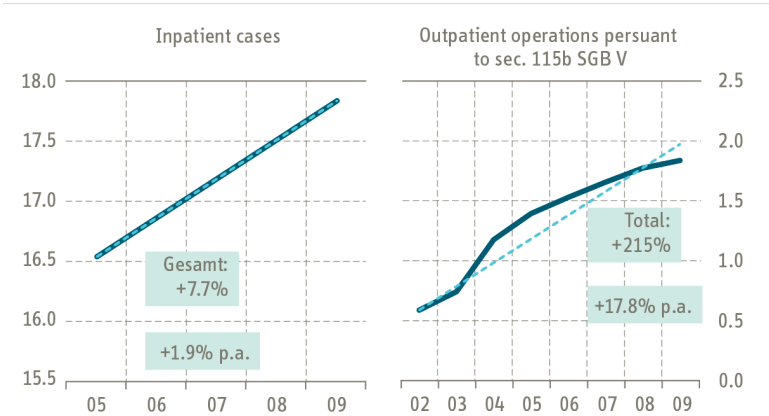


Source: Statistisches Bundesamt (2011); RWI. – Total costs excluding costs for abroad. – [1]Of which particularly overheads of the health insurance funds. – [2]Practices of other medical professions: physiotherapy, speech therapy, ergotherapy, music therapy, massage and midwife practices, as well as alternative practitioners or medical chiropodists. – [3]Investments (gov't grants for hospitals, funds for nursing homes i.a.), health protection, emergency services, other facilities and private households.

Diagram 2

Number of inpatient cases and outpatient operations

2005 to 2009; in m



Source: RWI; Statistisches Bundesamt (Grunddaten).

When it is moreover considered that roughly 1.1 million persons are employed in German hospitals (Statistisches Bundesamt: Grunddaten), the huge importance for employment policy becomes obvious as well.

Market volume is reflected most impressively in the hospitals' service volumes. The number of inpatient cases increased by 7.7% between 2005 and 2009 from 16.5 million to 17.8 million (Diagram 2). In addition to full inpatient service volumes, the number of outpatient operations pursuant to section 115b of the German Social Insurance Code V (Sozialgesetzbuch V, SGB V) witnessed a particularly sharp rise: by 32% since 2005, and even by 215% since 2002 (Augurzky et al. 2011).

As already presented in the first Fact Book, the hospital market is undergoing a process of sweeping changes to which there is currently no end in sight. For example, the number of hospitals declined by roughly 14% from 1991 to 2010. A similar trend can be observed with the number of beds (-25%) and duration of stay (-44%) (Statistisches Bundesamt 2011: Grunddaten). In a mirror image to this is the smart rise in the number of full inpatient cases (+24%) – which reflects an increase in efficiency. These changes have been reinforced by the introduction of case-flat-rate remuneration in hospitals based on diagnosis-related groups

(DRGs). From the outset of this transformation process, an increasing switch in ownership of hospitals in favour of private, profit-oriented companies has also been observed.

This dynamic trend, often referred to as "privatisation of the hospital market", is assessed in different ways by the individual players of the healthcare system. Time and again fears of a possible trade-off between private hospital owners' intention of generating profits on the one hand and ensuring high-quality and generalised hospital care on the other are voiced. The key purpose of the present Fact Book is to examine these with the aid of detailed empirical analyses.

2. Special features of privately owned hospitals

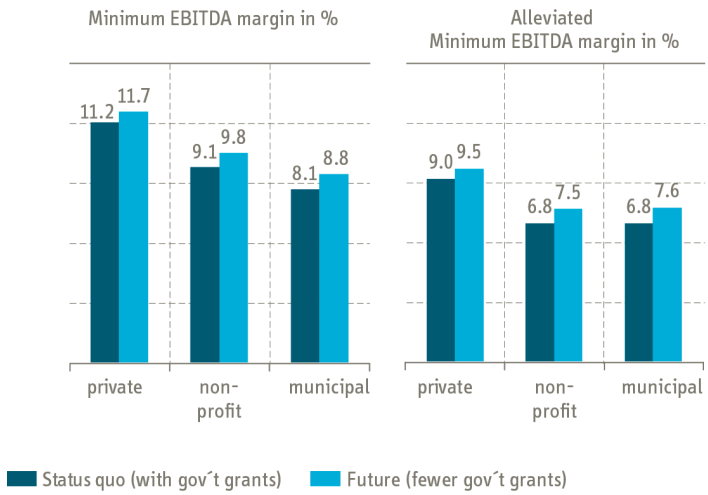
Essentially, privately owned hospitals are distinguished from municipal and non-profit facilities by the fact that private equity capital is employed in the company.[3] This results in advantages and disadvantages compared with other hospitals. On the one hand, private funds are not provided for free. This is a well-known feature of debt capital, for which interest is charged. The use of private equity capital also comes at a cost in the form of dividends paid out each year. This deprives the hospital of a certain capacity to invest, but on the other hand has the advantage of allowing the hospital to tap the capital markets for funds. That in turn increases investment capacity considerably because it is only by paying out part of their profit that hospitals become attractive for external providers of capital. It is thus a give-and-take process. For the German economy as a whole, it is an advantage for private capital to be invested in the healthcare system. Non-profit-oriented hospitals do not have this option. They can only resort to scarce government grants and debt capital.[4] Without sufficient investment, though, it is often difficult for a hospital to optimise its clinical processes.

The facility's profit-generating intention is thus justified by the capital cost of privately invested equity capital. But at the same time, profits are not guaranteed. Losses are also possible. Providers of capital take an entrepreneurial risk. The

3 By contrast, private debt capital is used by hospitals of any ownership type.

4 Note, here, that debt capital, frequently in the form of loans from banks, also comes at an interest charge. This also deprives the hospital of funds. Funds are also removed from the hospital as a result of remuneration of the hospital's staff. However, this is a normal part of a production process. Factors of production, notably labour and capital, are employed to produce the desired product. It is a matter of course that in such production process costs are incurred by the factors of production.

Diagram 3
Minimum EBITDA margin
Sample calculation; in %



Source: HCB, RWI. – Assumption: In future the special item share is only 2/3 of its current level; attenuated variant: lower rates of depreciation and return on EC private = 5% and non-profit = 0%.

customary rate of return on capital thus also includes a risk premium; the greater the likelihood of a loss being generated on the capital employed, the higher the risk premium is.

In a sample calculation we assume that interest of 8% per annum, including the risk premium, is payable as the rate of return on the privately invested equity capital, whereas that rate of return for equity capital of non-profit hospitals is only 3% and that of municipal hospitals 0%, with the rate being 4% for debt capital and 0% for government grants. Under these assumptions, a minimum necessary overall return on capital by ownership type can be derived. In this context we assume an average capital structure for each ownership type. Assuming, moreover, typical rates of depreciation on fixed assets as well as an average asset structure are assumed, it thus becomes possible to calculate the depreciation rates as well as a

2. Special features of privately owned hospitals

Diagram 4

Calculation of minimum EBITDA margin for private ownership type

Sample calculation for private owners

Assets	Share	€ / Case	Deprec.
Fixed assets	70%	2 625	
Intangible assets	4%	150	25%
Tangible Fixed assets	64%	2 400	
Land and buildings	54%	2 025	3%
Technical plant and Equipment	2,5%	94	25%
Operating and business equipment	7,5%	281	25%
Financial assets	2%	75	0%
Current assets	30%	1 125	0%
Rest	0%	0	0%
Balance sheet total		3 750	

P+L	€ / Case	
Revenue	3 000	100%
Operating costs	2 664	88,8%
EBITDAR	336	11.2%
Rent	0	0%
EBITDA	336	11.2%
Depreciation total	192	6,4%
- thereof KHG Funds	90	3%
Interest	66	2.2%
Net profit	78	2,6%

Liabilities	Share	€ / Case	Interest
Equity	26%	975	8%
Special item	30%	1 125	0%
Debt capital (rest)	44%	1 650	4%
Balance sheet total		3 750	

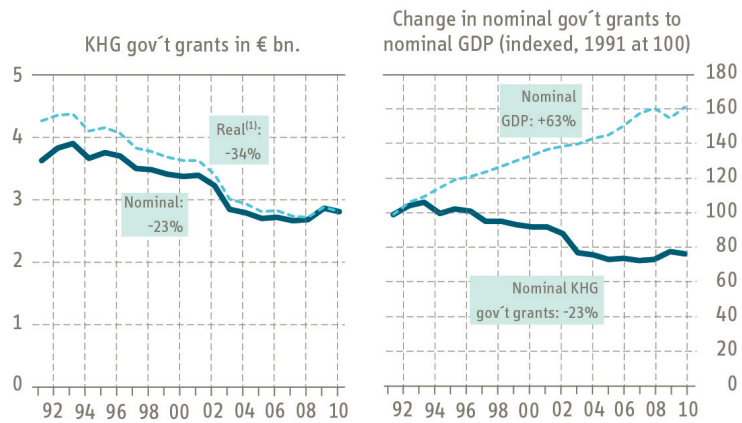
Source: ADMED, HCB, RWI. – In the long term, even 11.7% EBITDA is necessary as gov't grants decline (reduction in special item share by one third).

minimum necessary operating result overall (EBITDA margin[5]) for each ownership type (Diagram 3). Diagram 4 shows how it is determined in the example of a privately owned hospital. This is performed analogously for the other ownership types.

A further important advantage of hospitals with private owners is that they frequently have a professional supervisory body and a profit-oriented management. The supervisory body per se is more homogenous and its members pursue similar interests, above all efficient provision of the hospital's services and ongoing improvement in its own competitive position. Going hand in hand with this is an interest in high-quality services so as to successfully vie for patients in competition with other hospitals. In particular, the supervisory body as a rule does not pursue any other objectives that might be to the detriment of efficiency and quality.

5 EBITDA = operating earnings, i.e. income after deducting personnel and material costs. It stands for "Earnings before interest, taxes, depreciation, and amortization". It is a business ratio that provides a relatively good approximation of a company's cash flow. EBITDA margin is the ratio of EBITDA to income.

Diagram 5
Gov't grants under the KHG
1991 bis 2010; in Mill. €



Source: RWI; DKG (2011). – [1]Deflated by consumer goods price index.

In this connection it has to be assumed that supervisory bodies of privately owned entities place much greater emphasis on a success-oriented executive body that manages the fate of the company under its own responsibility and is measured by its achievement of the company's targets. Here, such supervisory body does not interfere in the day-to-day business of the company but rather is concerned with the long-term corporate strategy. Its greater independence from decisions by local levels of government makes it easier for the management of private but also many non-profit hospitals to not only identify rationalisation potential but also to actually exploit such potential.

Just how important private capital is for the German hospital system is seen in the dearth of government grants having led to a noticeable investment gap over the past years. Germany has what is referred to as a dual hospital finance system. Under the Hospitals Financing Act (*Krankenhausfinanzierungsgesetz*, KHG) (section 9 (1) KHG), the federal states bear the costs of investment out of tax funds (Beivers and Minartz 2011a; Neubauer 2007). Under the KHG, the hospitals at least have a claim against the federal states for funding of their investment costs. The precondition for this is that the facility has been admitted to the state hospital requirement plan. Current operating costs, however, are accounted for with the patients or health insurance funds via DRGs, supplementary remuneration and daily nursing rates. Consequently, remuneration does not include any investment

cost components. This results in two management systems based on two different regulatory policies being used side by side, which is something that naturally leads to conflicts (these can also actually be observed in Germany). This results among other things from the fact that the design of the remuneration system is subject to the prerogative of the German Parliament and hospital planning to that of the federal states (cf. Neubauer 2007). The area of investment financing is thus running into difficulties with the noticeable reduction in government grants seen for several years now (Diagram 5).

Taking the annual investment requirement of 10% of a hospital's revenue regarded as necessary, a cumulative investment gap totalling € 30 billion has arisen since 1991, according to estimates of the RWI (Augurzky et al. 2011). That said, hospitals are increasingly filling this gap by investing out of own funds, with the result that the actual investment backlog can be put only at roughly € 14 billion. The falling rate of government grants can be seen in hospitals' balance sheets. Average investment capacity of the hospitals is indeed poor. The EBITDA margin including government grants averaged 8% in 2009 – to ensure sufficient investment, the level, depending on the ownership type, should be well above that. In this sense, only roughly 36% of all hospitals have full investment capacity (Augurzky 2012).

3. Data basis

The basis for the data of this Fact Book is taken from the official hospital data of the Federal Statistical Office (*Statistisches Bundesamt*) (Diagram 6). The data used were the (i) basic data on inpatient service volumes from 1996 to 2009 (Statistisches Bundesamt: Grunddaten). On the cost side, the (ii) cost statement of the hospitals provides comparable data on personnel and material costs for the years 2002 to 2009 (Statistisches Bundesamt: Kostennachweis).

These data are publicly available in aggregated form. In section 5, we resort to such data to show longer time series. However, we always confine ourselves to general hospitals[6], i.e. exclude purely psychiatric or psychotherapeutic or purely day- and night-care facilities because it is not even remotely possible to measure their outcome in case-mix points. Moreover, we exclude university hospitals because in addition to care delivery they also conduct research and teaching and it is likewise not even remotely possible to measure their overall outcome in case-

6 General hospitals are those having beds available in full inpatient departments, with such beds not being kept available exclusively for psychiatric, psychotherapeutic and neurology patients. Purely day and night facilities are excluded (Statistisches Bundesamt 2011: Grunddaten).

Diagram 6
Data basis of empirical studies

Official statistic	Annual financial statement data	Quality data and patient satisfaction	BDPK data survey	Research Institute of the AOK (WIdO)
Basic data (Grunddaten) 1996 to 2009 Cost data (Kostennachweis) 1996 to 2009 Diagnosis data 1996 to 2009 Access to original data at the Research Data Centre in Düsseldorf (FDZ)	Balance sheets and P&Ls of 1.035 hospitals in the period from 2005 to 2009 (RWI sampling)	Quality data of the Institut für Qualität und Patientensicherheit (BQS) from 2008 Patient surveys of Techniker Krankenkasse for 2006, 2008 and 2010	Data gathered on the share of patients treated under statutory health insurance in private hospitals Survey of members of the Federal Association of Private Hospitals (BDPK) Data basis: 16 private hospitals and chains (members of BDPK) with a total of nearly 30,000 beds	CMIs by ownership type in 2009 from Krankenhaus-report 2010 of WIdO

Source: RWI.

mix points.[7] For 2009, data of 1,780 general hospitals are available (including 34 university hospitals), of which 563 under private ownership and 661 under non-profit and 522 under public ownership (Table 1).

7 *However, university hospitals can be removed only approximately from the aggregated data because since 2006 it has no longer been the case that all university hospitals are under public ownership (and thus it is impossible simply deduct their figures from those of all public hospitals). Insofar, a part of that has to be deducted from the figures of the private hospitals after 2006 with the aid of a key.*

Table 1

Selection settings „care hospitals and general hospitals“

Hospitals	Private (excl. univ.)	Non-profit	Municipal (excl. univ.)	Univ. hospitals	Total
2005					
General pool	570	818	725	34	2 147
Selection of “care hospitals”	362	757	643	–	1 762
Selection of „general hospitals“	487	712	613	34	1 846
2009					
General pool	664	769	618	34	2 085
Selection of “care hospitals”	412	702	549	–	1 663
Selection of „general hospitals“	563	661	522	34	1 780

Source: RWI; FDZ (2011); Statistisches Bundesamt (Grunddaten).

That said, the publicly accessible aggregated data have the disadvantage of not allowing for any further refinements in the analyses. For example, hospitals without a care mandate, which are not the subject matter of the Fact Book, are not eliminated. These include many small private hospitals, for example. However, the data basis can be adjusted for all non-relevant hospitals by using the original data available from the research data centres of the State Statistical Offices. Only approved hospitals[8] or those with a care mandate[9] which provide DRG services (hereinafter referred to in short as “care hospitals”[10]) are included. The drawback in this regard is that the analyses are much more involved and key ratios are provided only for 2005 and for the currently available year 2009. Section 4 refers to these data. However, they do not allow for any time series analyses.

8 Approved hospitals are hospitals that are admitted to a federal state’s hospital requirement plan (cf. section 6 (1) KHG); in 2009 there were 1,481 general approved hospitals (Statistisches Bundesamt 2011).

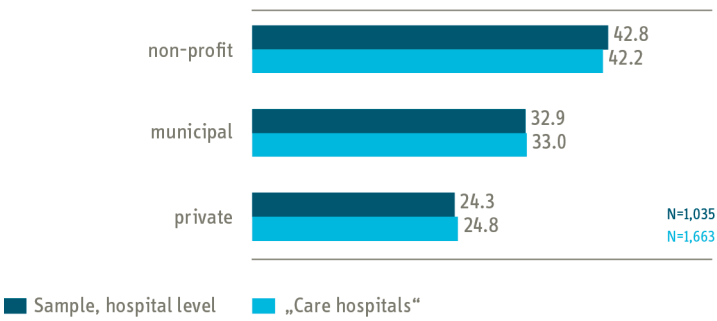
9 Hospitals with a care mandate pursuant to section 108 no. 3 SGB V are authorised to provide hospital treatment to statutory health insured members based on a care mandate with the state associations of health insurance funds and the associations of other substitute funds; in 2009 there were 87 general hospitals with a care mandate (Statistisches Bundesamt 2011).

10 With the care hospitals, by analogy to the general hospitals, the purely psychiatric and psychosomatic hospitals were removed from the calculation. Since the detailed data basis of the FDZ makes it possible to measure psychiatric-neurological hospitals separately, these, however, were not removed from the calculation because their services are to a certain extent remunerated with DRGs. That explains why the number of other non-profit and municipal care hospitals in Table 1 is larger than the number of general hospitals.

Diagram 7

Comparison of sample and selection of care hospitals

2009; share as % of all hospitals



Source: RWI; FDZ (2011).

In keeping with this selection, data from a total of 1,663 care hospitals, of which 412 under private, 702 under non-profit and 549 under public ownership, are available to us for 2009, and data from 1,762 hospitals for 2005. Table 1 also shows how the general pool changes as a result of the selection of care hospitals for 2005 and 2009.

For some analyses (especially those based on economic key ratios) the (iii) RWI annual financial statement data are used. This sampling includes 687 annual financial statements from 2008 and 366 from 2009. They cover 1,035 hospitals and allow for analyses of the hospitals' financial situation by ownership type. The ownership structure is reflected very well by the available annual financial statements (Diagram 7). To weight the number of cases, the (iv) CMIs per hospital provided by the WIdO were also used. In this way, it is possible using the case mix to reflect a hospital's outcome much better than merely using the number of cases. Furthermore, the (v) survey of the Federal Association of Private Hospitals in Germany (BDPK) makes it possible to show the SHI share of patients treated in private hospitals. For the analysis of patient satisfaction, (vi) patient surveys of the health insurance fund Techniker Krankenkasse from 2006, 2008 and 2010 were used.

For examining the owner-specific quality of the services provided, the (vii) quality data of the Federal Agency of Quality Assurance (BQS) from data year 2008 were used. These data relate to over 3.5 million patient cases from more than 1,700 hospitals (BQS 2009). For our analyses, we were able to resort to the BQS assessments of 32 individual indicators. These can be used in different ways: each individually, grouped into three categories (process, indication and results quality)

or grouped into one category. For our analyses, the individual indicators for each hospital were grouped into a quality measure with three categories: (1) "qualitatively conspicuous", i.e. the percentage of indicators with qualitative conspicuities is greater than 5%; (2) "under observation", i.e. the sum of the percentage of indicators with conspicuities and of the percentage of indicators under observation is greater than 5% and the hospital is not qualitatively conspicuous; or (3) "qualitatively inconspicuous" for all other hospitals.[11]

4. Detailed analyses of care hospitals

4.1 Market shares

Diagram 8 shows the changes in the market shares of the care hospitals between 2005 and 2009. During this period, the share of private hospitals increased by 4.8 percentage points with reference to the number of hospitals, by 3.7 percentage points with reference to the number of beds and by 3.9 percentage points with reference to the number of cases. It becomes apparent that the private hospitals on average acquired more small hospitals. It also emerges that private hospitals keep available a disproportionately high share of intensive care beds. Furthermore, a persistent market consolidation on the hospital market, i.e. mergers in the hospital sector, can be observed (Augurzky et al. 2011) – driven in particular by the hospital chains under private, but increasingly also those under public and non-profit ownership.

4.2 Efficiency

To cover their capital costs, private hospital owners have to generate a return on their capital employed. This calls for a high level of efficiency. That means adhering to stringent cost and revenue management as well as high (labour) productivity. To minimise costs, it is necessary to reap economies of scale through high occupancy, achieve specialisation of services volumes as well as optimise clinical processes in addition to cost-sensitive management. The merger into a group can moreover unlock networking reserves referred to as "economies of scope". Here, the private hospitals lead the way, as shown among other things by the adjusted costs per case-mix point[12] (Diagram 9).

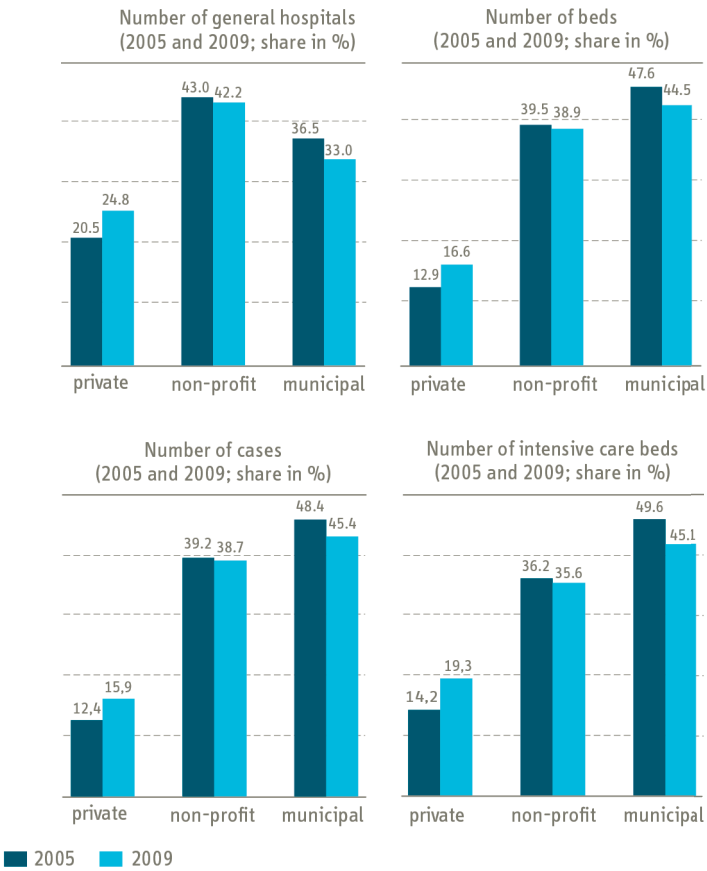
11 *BQS (2010); additional information: http://www.bqs-qualitaetsindikatoren.de.*

12 *Under the DRG system, case mix represents a hospital's case number weighted by severity of treatment. It thus measures a hospital's service volume.*

Diagram 8

Market shares of general hospitals

2005 and 2009; in %



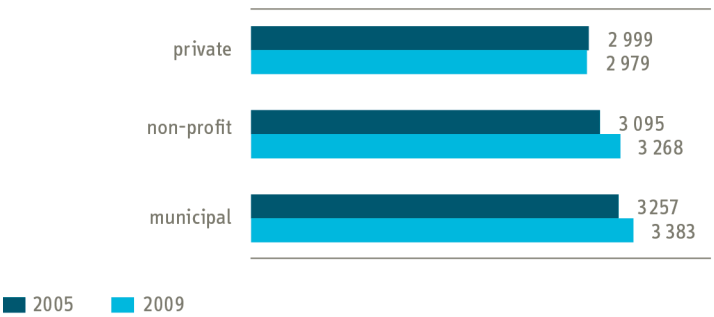
Source: RWI; FDZ (2011).

Private hospitals have proportionately higher material costs compared with the other ownership types (Diagram 10). However, the percentage has increased with all ownership types on a comparison between 2005 and 2009. The differences versus the previous Fact Book result because here the costs are shown as a percentage of gross costs and not, as previously the case, as a percentage of revenue. This allows for better comparability. The higher material cost share of the

Diagram 9

Adjusted costs of general hospitals by ownership type

2005 and 2009; in € per case-mix point

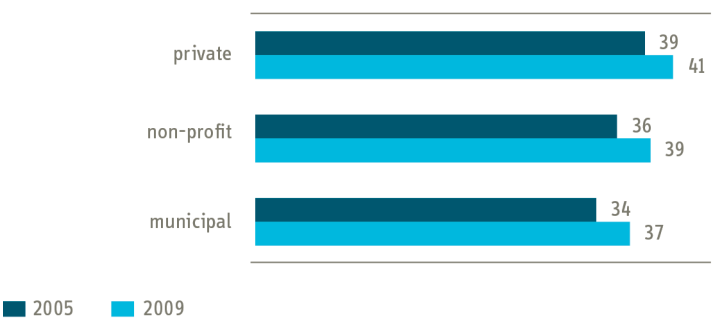


Source: RWI; FDZ (2011); WIdO (2011).

Diagram 10

Material costs of general hospitals

2005 and 2009; share in % of gross costs



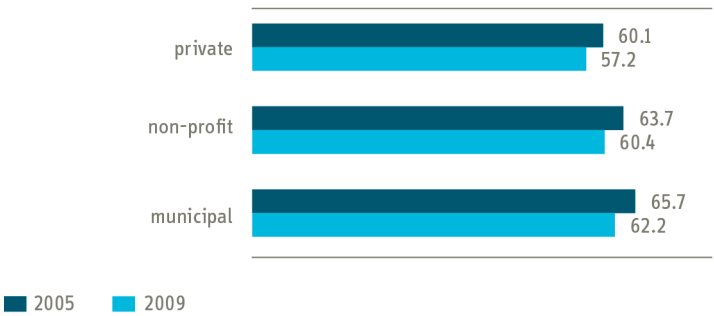
Source: RWI; FDZ (2011).

private hospitals is presumably explained by a higher ratio of services performed by external entities (i.e. their higher level of outsourcing). This is part of the production process based on economic division-of-labour principles. A glance at the more detailed cost structure (e.g. percentage of medical supplies in material costs) under 4.4 in particular reveals that the private hospitals do not spend less money on medical infrastructure than the other owners.

Diagram 11

Share of personnel costs in gross costs

2005 and 2009; share in % of gross costs

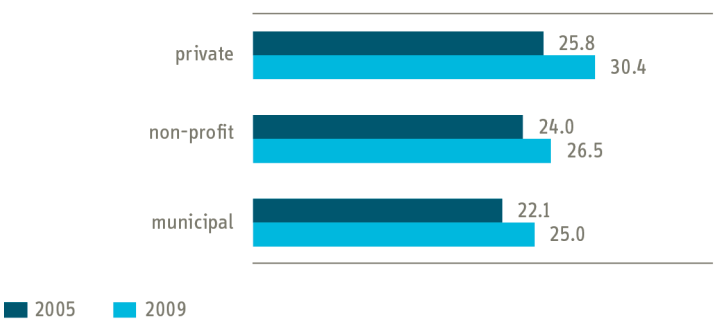


Source: RWI; FDZ (2011).

Diagram 12

Case-mix points per full-time employee

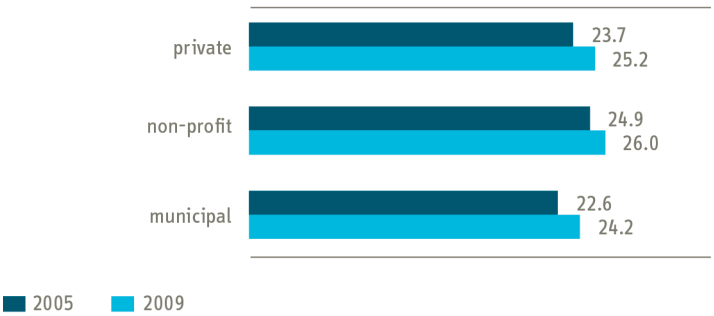
2009



Source: RWI; FDZ (2011); WIdO (2011).

Personnel costs, at roughly 57% of gross costs, are proportionately lower with the private providers (Diagram 11). This might result, firstly, from the fact that hospitals under private ownership prefer in-house wage agreements and are not bound by rigid industry-wide collective bargaining rules. This allows for a higher degree of performance-linked remuneration and greater freedom in the terms agreed for

Diagram 13
Number of cases per full-time employee
2005 and 2009



Source: RWI; FDZ (2011).

individual employment contracts as well as additional possibilities of retaining qualified staff. Secondly, it reflects the possibly greater level of outsourcing of private hospitals already mentioned.

The higher (labour) productivity of the private hospitals is also reflected by the key ratio "case-mix points per full-time employee" (Diagram 12). At 30.4, the private hospitals are well ahead of the others. This can be explained by the lower costs per case-mix point. It is conceivable that this is accompanied by a higher workload of the staff. Empirically, the available data do not allow productivity on the one hand and workload on the other to be separated. However, a disproportionately high workload with an average remuneration cannot be sustained in the long run given the current competition for qualified staff. If, moreover, case numbers per full-time employee are compared, i.e. approximately the number of patients cared for per full-time employee, the employee/patient ratio with private hospitals is even smaller (Diagram 13).

Higher productivity does not necessarily mean a higher workload if workflow processes are designed intelligently, thus reducing inefficiencies. In addition, performance-linked remuneration can result in higher productivity and have a tendency to retain more productive staff. It also has to be assumed that, for example, the areas of cleaning, catering, radiology, laboratory, pick-up and delivery services,

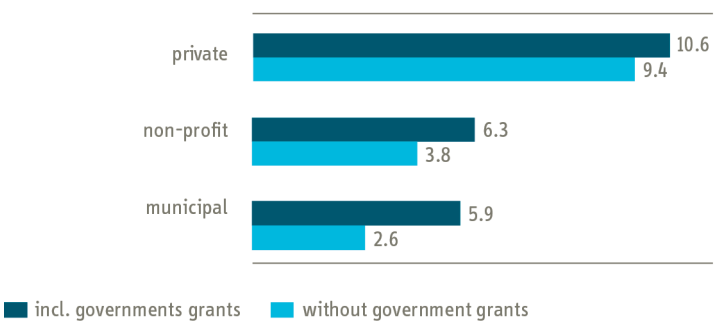
sterilisation, referred to as secondary services with the private hospitals, are more frequently performed by external service providers (outsourcing), reducing the number of full-time staff.

4.3 Earnings strength and investment capacity

The efficiency of the private hospital owners is reflected in their earnings strength. For example, their average EBITDA margin (incl. government grants) was roughly 10.6% of income[13] in 2009 and thus significantly higher than with non-private hospitals (Diagram 14). Looking at the EBITDA margin excluding government grants, i.e. operating income from own strength, the gap between private and other ownership types is even greater because private hospitals resort to a lesser extent to government grants.

From EBITDA, capital employed is financed. On the one hand, it can be used to finance re-investments for preserving assets. On the other, it provides return on capital to finance debt and equity capital for investments. It is thus a relatively good measure of a company's investment capacity. On the basis of the minimum EBITDA margin defined by way of example in section 2, it allows for an estimate of the average investment capacity of hospitals by ownership type (Diagram 15). Only

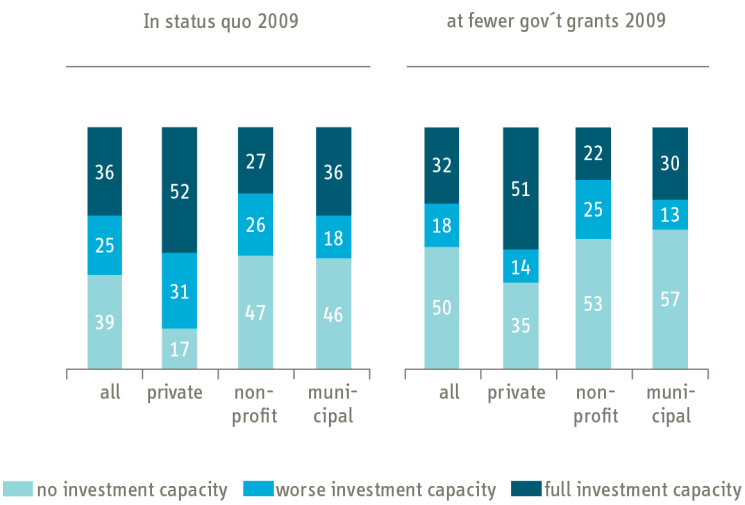
Diagram 14
EBITDA margins
2009; as % of total income



Source: RWI; FDZ (2011).

13 According to the available HGB balance sheets, income in this regard corresponds to sales plus other operating income.

Diagram 15
Investment capacity of hospitals
2009; shares in %



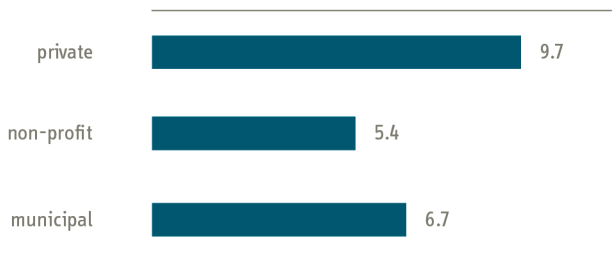
Source: HCB, RWI; FDZ (2011).

17% of the private hospitals had no capacity to invest in 2009, compared with 46% in the case of the municipal facilities. Indeed, the private hospitals used a large share of their income for investments (9.7%), versus 5.4% with their non-profit and 6.7% with their municipal counterparts (Diagram 16).[14]

Whereas the private hospitals use significantly fewer public resources in the form of government grants and thus in relative terms place a smaller burden on taxpayers, they conversely, by paying taxes on their profits, even make to contribution to financing the State's obligations towards society. This is illustrated by a comparison of the special item ratio (Diagram 17). Special items are the cumulative government grants received (after depreciation). The private hospitals resort less to public funding. At the same time, they generate a higher net profit on which

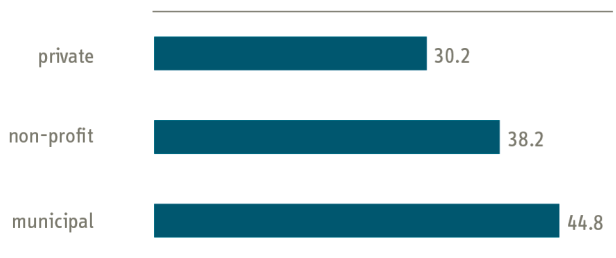
14 The investments were derived from the change in fixed assets over two years. Investments for acquiring a hospital were approximately eliminated so that investments actually refer to the improvement in corporate assets. In the case of the three large private hospital chains Rhön-Klinikum, Helios Kliniken, Asklepios and Sana, investments (excluding acquisition of hospitals) were taken from the annual reports.

Diagram 16
Share of investment in total income
2009; in %



Source: RWI.

Diagram 17
Special item ratio
2009; as % of balance sheet total



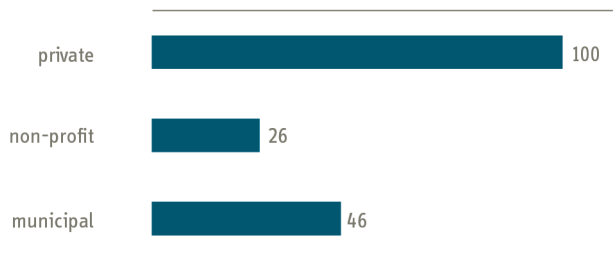
Source: RWI.

they paid roughly 100 million euros in corporate income tax in 2009, significantly more than the other ownership types (Diagram 18). This becomes even clearer when viewed in terms of tax per bed (Diagram 19).

4.4 Participation in healthcare delivery

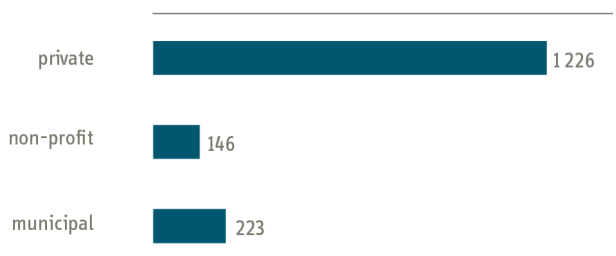
Among those critical of hospital privatisation, the presumption is that a trade-off is made between profit orientation on the one hand and participation in healthcare delivery on the other. In the previous Fact Book it was shown that profit

Diagram 18
Corporate income tax
2009; € m



Source: RWI. – The calculation of tax included both taxes on income and other taxes.

Diagram 19
Corporate income tax and other tax per bed
2009; in €



Source: RWI. – The calculation of tax included both taxes on income and other taxes.

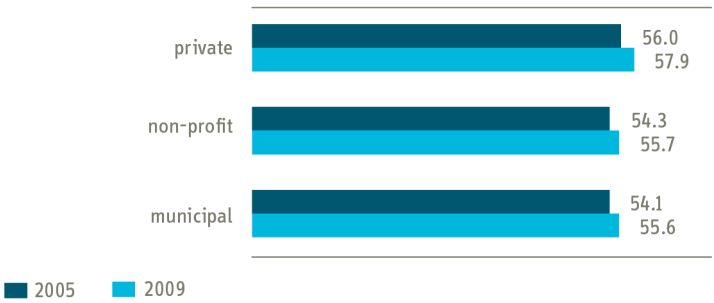
orientation is not to the detriment of the medical care delivered to patients, and that private providers are not "cherry pickers", leaving loss-making business to their public competitors. These statements are confirmed by current analyses of medical service volumes.

The average age of patients treated in private hospitals is higher than in other hospitals (Diagram 20), which may be related to their higher case-mix index (CMI) (Diagram 21). The presumably higher number of secondary diagnoses with older

Diagram 20

Average age of patients

2005 and 2009; in years

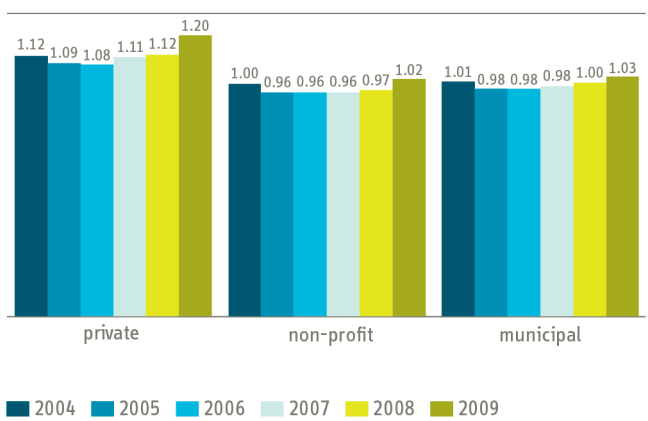


Source: RWI; FDZ (2011).

Diagram 21

Average CMI

2004 to 2009

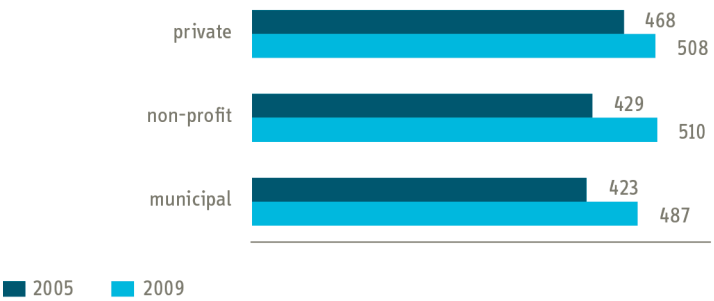


Source: RWI; WidO (2005-2010); Statistisches Bundesamt (Grunddaten; Verzeichnis). – CMI values from 2004-2006 differ from the last Fact Book by the currently better availability of data and these higher general pool.

Diagram 22

Costs of medical supplies excluding drugs per case-mix point

2005 and 2009; in €



Source: RWI; FDZ (2011); WIdO (2011).

patients[15] consequently results in a higher CMI under the DRG system. Another reason for the higher CMI may be a greater specialisation among the private hospitals.

As far as costs per case-mix point for medical supplies and drugs are concerned, the private hospitals do not differ significantly from the other hospitals (Diagram 22 and 23). The figures do not provide any indication that private hospitals save on medical supplies at the expense of their patients. Lower costs for drugs with the private hospitals can be explained amongst other things by better purchasing terms as a result of networking effects.

In terms of availability of medical technology infrastructure as measured by the number of large medical equipment units (Diagram 24), there are almost no differences by ownership type.[16] In the area of intensive care beds, the private hospitals even make a disproportionate contribution to the treatment of patients suffering from severe conditions and thus to ensuring (emergency) care (Diagram 25). Lastly, it has to be noted that private hospitals do not treat any more or any fewer

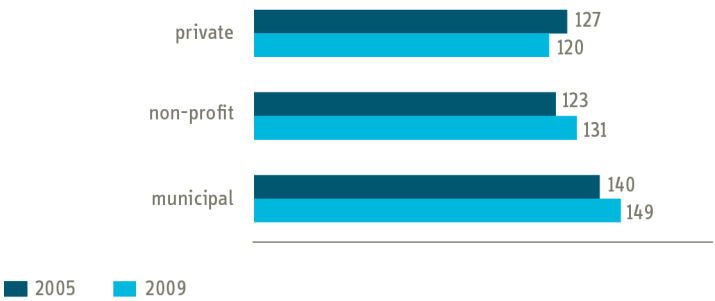
15 Current studies of the Federal Statistical Office reveal a clear correlation between age of patients and the number of secondary diagnoses at hospital. Whereas 45-64-year-olds on average reveal 3.6 secondary diagnoses, the figure for over-85s, at 7.1 secondary diagnoses, is almost double (Statistisches Bundesamt 2009: Verzeichnis).

16 Since available capacity is examined here, reference is made to bed capacities kept available instead of case mix.

Diagram 23

Costs of drugs per case-mix point

2005 and 2009; in €

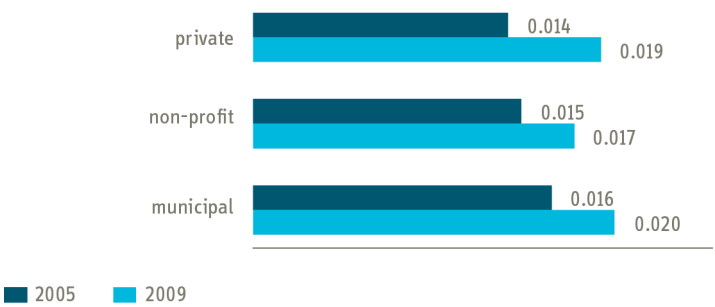


Source: RWI; FDZ (2011); Wido (2011).

Diagram 24

Number of large medical technology units per bed

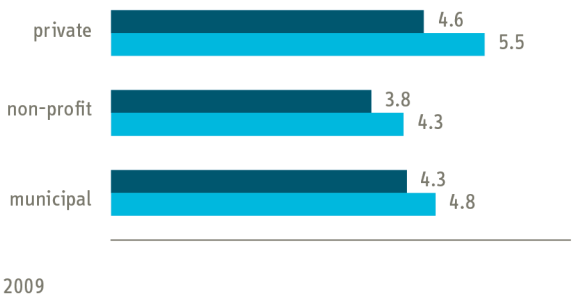
2005 and 2009



Source: RWI; FDZ (2011).

privately insured patients than the other hospitals do (Box 1). The distribution of statutorily and privately insured patients in the member hospitals of the BDPK is nearly identical to the national distribution for all hospitals.

Diagram 25
Number of intensive care beds per 100 beds
2005 and 2009



Source: RWI; FDZ (2011).

Box 1:
Privately owned hospitals treat just as many SHI patients
Occasionally private hospitals, given their profit orientation, are said to be mainly interested in treating privately insured patients because they stand to generate higher remuneration from this group of patients. In 2009, roughly 89% of the German population were under statutory (roughly 70 million people) and roughly 11% under private (8.9 million people) health insurance (Federal Association of Statutory Health Insurance Funds – GKV-Spitzenverband 2011). With reference to the number of patients, though, only around 7% to 8% were privately insured due to their lower prevalence rate. A survey conducted by the BDPK among its members in which facilities with a total of 30,000 beds participated revealed that in 2009 roughly 93% of their patients treated were covered by statutory insurance (as in 2005) and that the private facilities in this regard are within the national average.

4.5 Quality

Another important subject is the owner-specific qualify of the services provided, which is examined on the basis of the quality data of the Federal Agency of Quality Assurance (BQS) from 2008. Generally, analyses in the Hospital Rating Reports (e.g. Augurzky et al. 2011) show that the aims of quality and efficiency are not at odds with each other but instead go hand in hand. In the owner-specific assessment of qualitative conspicuities of hospitals (Diagram 26) and the share of the hospitals to be examined (Diagram 27) in the Fact Book therefore do not reveal any

Diagram 26

Hospitals with qualitative conspicuities

2008; share as % of all hospitals

Source: RWI; BQS (2009). – Qualitatively conspicuous if the share of indicators in the hospital with a value of 3, 4 or 5 (according to BQS definition) exceeds 5%.

Diagram 27

Hospitals to be examined

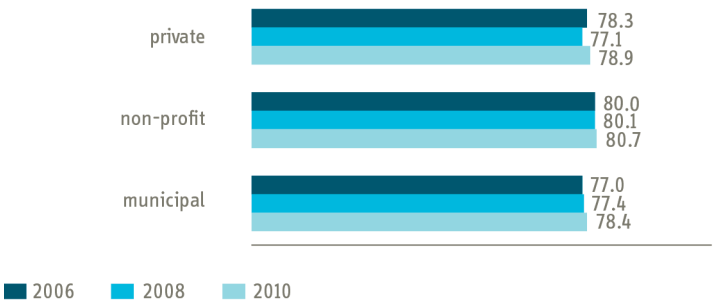
2008; share as % of all hospitals

Source: RWI; BQS (2009). – Facility to be inspected if the sum of the share of indicators with conspicuities and the share of the indicators under observation (value 2 according to BQS definition) is greater than 5% and the hospital is not qualitatively conspicuous.

disadvantages of privately owned hospitals either. In fact, it is even the case that the private hospitals less frequently show qualitative conspicuities and are less often among the hospitals to be audited.

In additional to medical quality, the service quality experienced by patients as measured in patient satisfaction is also of great importance. The basis for measuring it is the patient surveys of the health insurance fund Techniker Krankenkasse from 2006 to 2010. Diagram 28 shows that there are no ownership-specific differences in this regard. For all owners, average patient satisfaction is roughly in the range of 77% to 80%.

Diagram 28
Share of satisfied patients
2006 to 2010; share in %



Source: RWI; TK (2010). – The figure indicates the percentage of patients who are satisfied.

4.6 Securing regional care delivery

Sufficient generalised healthcare delivery to the population is an important component of the basic services provided by the State enshrined in legislation through the welfare state principle (Art. 20 I of the German Constitution). It also includes generalised healthcare delivery in rural regions. There are critical voices taking the view that it cannot always be provided efficiently and is therefore of less interest for private owners. Insofar, the non-private hospitals would have to take responsibility for it and consequently fare worse on average in terms of efficiency.

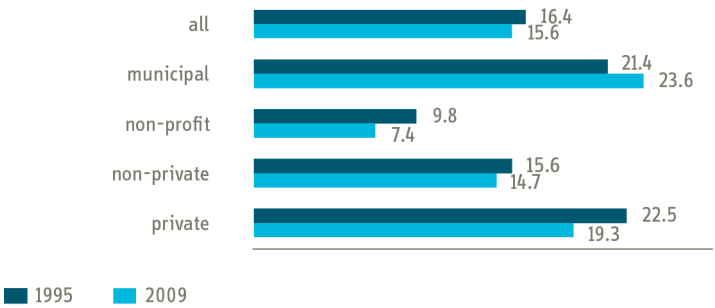
Diagram 29 shows the share of rural hospitals by ownership type for 1995 and 2009. First of all it has to be noted that the share of rural hospitals in the case of private owners is similar to that of the non-private hospitals taken together. The share is higher with public hospitals and lower with the non-profit hospitals. Although the share with private and non-profit hospitals is in decline, and on the rise with public hospitals, the changes are not significant. In particular, there is also a large share of rural hospitals among the private facilities newly added since 1995. Note, further, that two thirds of the hospitals on German islands are under private

Privately Owned Hospitals

Diagram 29

Number of hospitals by rurality

1995 and 2009; share in %



Source: RWI; Statistisches Bundesamt (Verzeichnis), BBR (2010). – Rurality is defined by population density of more than 150 inhabitants/km2 and without a regional centre of more than 100,000 inhabitants or with a regional centre of over 100,000 inhabitants and a density of under 100 inhabitants/km².

Table 2

Presence of private hospitals on German islands

Hospital name	Location	Ownership	Beds	Inhabitants	Beds per 1,000 inhabitants
Klinikum Nordfriesland gGmbH	Wyk auf Föhr	municipal	23	4 421	5.2
Paracelsus-Nordseeklinik Helgoland	Helgoland	private	39	1 127	34.6
Krankenhaus Borkum GmbH	Norderney	non-profit	81	5 816	13.9
Krankenhaus Borkum GmbH	Borkum	private	8	5 133	1.6
SANA Krankenhaus Rügen GmbH	Bergen auf Rügen	private	240	14 030	17.1
SANA Krankenhaus Fehmarn	Fehmarn	private	30	12 942	2.3

Source: RWI; Statistisches Bundesamt (2011: Verzeichnis); BDPK (2012). – SANA Krankenhaus Fehmarn was re-opened in 2012.

Table 3

Distribution of the number of beds by basic, special and large providers as well as rurality

2009; shares in %

	Basic		Special		Large		Total
	Rural	*Municipal*	*Rural*	*Municipal*	*Rural*	*Municipal*	
Municipal	5.4	16.4	1.0	2.7	11.9	62.6	100
Non-profit	2.0	30.4	0.8	9.7	4.1	53.0	100
Non-private	3.8	22.9	0.9	6.0	8.2	58.2	100
Private	3.5	18.1	4.5	18.9	11.1	43.9	100

Source: RWI; Statistisches Bundesamt (2011: Verzeichnis); BBR (2010).

ownership (Table 2).[17] They thus make an important contribution to medical care there both for the local population and for tourists, and help make the regions more attractive overall.

In the following, we further subdivide the rural and municipal[18] hospitals into basic, special and large care providers. In this context, a basic healthcare provider is defined as a hospital which is intended to secure primarily generalised healthcare to the population, is an approved hospital and has between 50 and 300 beds (Beivers and Spangenberg 2008). Specifically, it has to keep available at least surgery and internal medicine capacities. Moreover, there are some large rural hospitals with more than 300 beds ("rural, large") which likewise secure rural care. By contrast, special hospitals ("special") are hospitals with up to 300 beds which do not fall under the classification "basic".

Table 3 shows the distribution of the number of beds both by rurality and by care type. What can be observed is that the private hospitals have a higher share of beds in special hospitals, but nevertheless participate in rural basic care to a similar extent compared with the non-private hospitals: 3.5% of private beds are found with rural basic care providers and 3.8% with the non-private facilities.

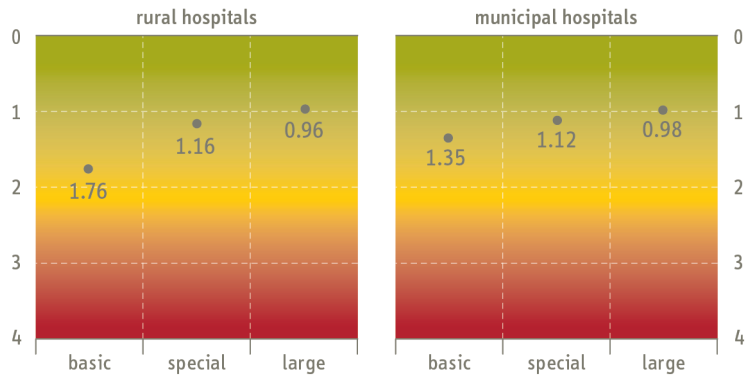
17 The analysis of hospitals on German islands included all islands on which – according to data currently available to RWI – hospitals are located.

18 Depending on population density and centrality of individual locations, the regions in Germany are assigned by the Federal Office for Building and Regional Planning (BBR) to specific residential structural types of regions and districts. These were used here for the division into the variables of "rural" and "municipal". For a detailed view, see Augurzky et al. (2011), pages 123 et seq.

Diagram 30

Probability of default by care type

2009; in %

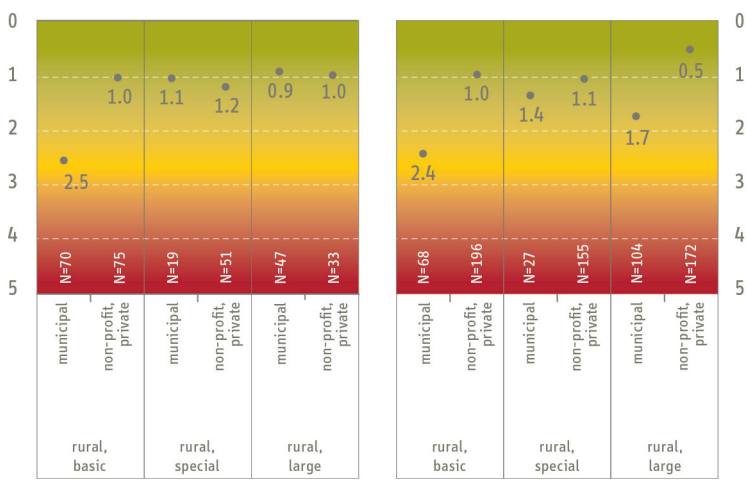


Source: Admed, HCB, RWI. – Selection criterion: Basic: 50 to 300 beds; Large: over 300 beds; large special providers are practically non-existent in this selection.

Diagram 31

Probability of default by care type and rurality

2009; in %



Source: Admed, HCB, RWI. – Selection criterion: Basic: 50 to 300 beds; Large: over 300 beds; large special providers are practically non-existent in this selection. In each case, only the difference between public basic providers (rural and municipal) and all other categories is statistically significant.

11.1% of private beds are attributable to large rural providers and 8.2% in the case of the non-private facilities. But even a direct comparison of private and municipal basic and large providers does not reveal any striking differences. The municipal hospitals have a slightly higher share of beds in rural basic care providers. With regard to large rural providers, there is practically no difference compared with the municipal providers.

A look at the economic situation of the rural basic care providers shows that on average they fare much worse than the other hospitals (Diagram 30). Basic care providers in rural areas have a 0.4 percentage point higher one-year probability of default compared with municipal basic care providers. Rural special hospitals, by contrast, have the same probability of default as municipal special hospitals. The same rings true of large rural and municipal providers.

If a further differentiation is made in this analysis by type of ownership, the picture that emerges is astonishing. To ensure that the sampling of annual financial statements does not become too small as a result of further subdivisions, we group together here the non-profit and private hospitals ("non-municipal") for statistical reasons because their probability of default hardly differs. It now emerges that non-municipal rural basic providers with reference to their probability of default fare just as well as the rural specialists and rural large providers. Obviously, rural basic care does not automatically have to be inefficient (Diagram 31).

5. Time series of general hospitals

In this section, key ratios are shown as far as possible over time. The basis for this is provided by the publicly accessible data of the Federal Statistical Office and the annual financial statements of hospitals. A selection by "care hospitals" is therefore not possible. As a result, the hospital sampling taken as a basis here is somewhat larger than in section 4. But all ratios always refer to general hospitals. Purely psychiatric hospitals and purely day- and night hospitals as well as university hospitals are not included.

5.1 Efficiency

Key ratios on efficiency (Tables 4 to 11) point to higher profitability and investment capacity. This is seen in particular in the analysis of the financial ratios (Tables 10 and 11). Moreover, a higher labour productivity of private providers is observed, above all on a view of case-mix points per full-time employee (Table 4). Here it has to be pointed out that on average a full-time employee in privately owned

Table 4

Case-mix points per full-time employee

2009

	Private	Non-profit	Municipal
Total	31.9	26.4	25.3
Medical doctors	192.0	166.0	154.9
Nursing services	78.1	66.1	66.2
Non-medical services	38.3	31.4	30.2

Source: RWI; WIdO (2011); Statistisches Bundesamt (2011: Grunddaten).

Table 5

Number of cases per full-time employee

1996 to 2009

Year	Private	Non-profit	Municipal
2009	26.5	25.9	24.5
2008	26.0	26.0	24.2
2007	25.8	25.7	23.8
2006	24.0	25.2	23.7
2005	24.3	25.1	23.5
2004	24.5	25.0	22.8
2003	25.3	25.3	22.9
2002	25.2	25.3	22.8
2001	23.2	23.9	21.7
2000	23.6	23.8	21.4
1999	23.2	23.1	20.8
1998	22.4	22.5	20.3
1997	21.4	21.6	19.5
1996	20.8	20.8	18.8

Source: RWI; WIdO (2010); Statistisches Bundesamt (Grunddaten).

5. Time series of general hospitals

Table 6

Number of cases per full-time employee (medical doctors)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	159.5	162.9	150.3
2008	157.9	164.8	150.7
2007	159.6	164.8	150.1
2006	155.3	164.8	152.3
2005	165.0	168.1	154.2
2004	174.2	175.4	156.6
2003	194.3	185.5	167.2
2002	200.2	191.6	171.2
2001	191.8	185.4	165.5
2000	202.1	188.1	166.1
1999	201.9	186.1	164.6
1998	200.6	185.1	162.9
1997	207.2	181.9	162.4
1996	208.1	183.9	160.4

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 7

Number of cases per full-time employee (nursing services)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	64.9	64.9	64.2
2008	63.8	65.1	63.2
2007	64.0	64.1	61.9
2006	61.4	62.6	60.9
2005	61.0	61.9	60.7
2004	62.0	61.2	58.1
2003	63.0	61.1	57.8
2002	61.9	60.5	56.9
2001	56.4	56.2	53.2
2000	56.5	55.7	52.8
1999	56.7	54.3	51.3
1998	54.2	53.0	50.1
1997	52.2	50.8	48.2
1996	50.0	48.8	46.4

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 8

Number of cases per full-time employee (non-medical services)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	31.8	30.8	29.3
2008	31.1	30.9	28.8
2007	30.8	30.5	28.3
2006	28.4	29.8	28.1
2005	28.5	29.5	27.8
2004	28.5	29.2	26.6
2003	29.1	29.3	26.6
2002	28.8	29.2	26.3
2001	26.4	27.4	24.9
2000	26.7	27.2	24.6
1999	26.2	26.3	23.8
1998	25.2	25.6	23.2
1997	23.8	24.5	22.2
1996	23.1	23.4	21.3

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 9

Number of nurses per doctor

1996 to 2009; in full-time equivalents

Year	Private	Non-profit	Municipal
2009	2.5	2.5	2.3
2008	2.5	2.5	2.4
2007	2.5	2.6	2.4
2006	2.5	2.6	2.5
2005	2.7	2.7	2.5
2004	2.8	2.9	2.7
2003	3.1	3.0	2.9
2002	3.2	3.2	3.0
2001	3.4	3.3	3.1
2000	3.6	3.4	3.1
1999	3.6	3.4	3.2
1998	3.7	3.5	3.3
1997	4.0	3.6	3.4
1996	4.2	3.8	3.5

Source: RWI; Statistisches Bundesamt (Grunddaten).

5. Time series of general hospitals

Table 10

Balance sheet data of general hospitals

2009

	Private	Non-profit	Municipal
Equity ratio as % of balance sheet total	25.9	28.7	21.9
Special item as % of balance sheet total	30.2	38.2	44.8
EBITDA margin (excl. KHG funds), as % of total income	9.4	3.8	2.6
EBITDA margin (incl. KHG funds), as % of total income	10.6	6.3	5.9
Return on revenue (before tax, EBT), in %	5.6	2.1	0.8
Return on total investment, in %	5.2	1.9	0.8
Taxes/revenue	0.7	0.1	0.2
Taxes, in € m	100	26	46

Source: RWI. – Calculated taking into account beds.

Table 11

Investments in general hospitals

2009

	Private	Non-profit	Municipal
Investments/ fixed assets, in %	9.2	9.2	9.4
Investments/revenue, in %	10.3	6.3	8.0
Investments/total income, in %	9.7	5.4	6.7
Fixed assets per bed, in €	171 000	92 000	119 000
Tangible fixed assets at present versus cost of acquisition and production in %	72.0	49.1	49.0
Investments per bed, in €	15 700	8 400	11 200

Source: RWI.

hospitals generates more revenue, i.e. more case-mix points, but at the same time does not really have more patients to care for. Table 7 also shows for nursing staff that their workload in private hospitals is not higher. The higher number of case-mix points per full-time employee stems from the higher average CMI of the private hospital operators.

5.2 Personnel

Private hospitals have a lower personnel cost share than other hospital operators, which is presumably partly explained by their higher rate of outsourcing and, by the same token, a higher share of material costs (see also section 4.2). Note that in the costs of medical doctors as a proportion of gross costs there are hardly any ownership-specific differences (Table 18).

Table 12

Number of full-time employees in total

1996 to 2009

Year	Private	Non-profit	Municipal
2009	95 828	233 249	286 098
2008	91 905	231 419	286 740
2007	89 607	227 167	289 728
2006	88 099	229 969	290 245
2005	78 280	229 804	302 610
2004	70 409	233 309	313 105
2003	60 700	243 633	327 061
2002	54 400	246 723	337 816
2001	52 442	255 721	339 658
2000	47 492	255 740	346 326
1999	46 041	260 781	351 735
1998	44 492	258 193	362 279
1997	39 389	260 852	372 661
1996	41 206	270 210	374 989

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 13

Number of full-time employees (medical doctors)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	15 947	37 112	46 674
2008	15 129	36 551	46 064
2007	14 482	35 465	45 973
2006	13 615	35 182	45 220
2005	11 538	34 343	46 208
2004	9 892	33 318	45 524
2003	7 905	33 192	44 899
2002	6 845	32 631	45 023
2001	6 345	32 939	44 483
2000	5 537	32 317	44 637
1999	5 297	32 336	44 477
1998	4 968	31 359	45 085
1997	4 062	30 925	44 823
1996	4 109	30 552	43 885

Source: RWI; Statistisches Bundesamt (Grunddaten).

5. Time series of general hospitals

Table 14

Number of full-time employees (non-medical services)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	79 881	196 137	239 424
2008	76 777	194 868	240 676
2007	75 125	191 702	243 756
2006	74 484	194 787	245 026
2005	66 742	195 461	256 402
2004	60 517	199 991	267 581
2003	52 795	210 441	282 162
2002	47 555	214 092	292 793
2001	46 097	222 782	295 175
2000	41 955	223 423	301 689
1999	40 744	228 445	307 258
1998	39 524	226 834	317 194
1997	35 327	229 927	327 838
1996	37 097	239 658	331 104

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 15

Number of full-time employees (nursing services)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	39 190	93 172	109 262
2008	37 422	92 588	109 805
2007	36 082	91 223	111 380
2006	34 427	92 636	113 041
2005	31 223	93 173	117 464
2004	27 770	95 475	122 759
2003	24 369	100 779	129 813
2002	22 129	103 373	135 323
2001	21 562	108 607	138 291
2000	19 789	109 061	140 506
1999	18 879	110 765	142 586
1998	18 394	109 555	146 576
1997	16 137	110 681	150 914
1996	17 112	115 049	151 708

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 16

Number of full-time employees (medical-technical services)

1996 to 2009

Year	Private	Non-profit	Municipal
2009	12 233	31 254	40 720
2008	11 743	30 863	40 457
2007	11 391	30 198	40 591
2006	12 559	30 533	39 223
2005	10 776	30 518	41 663
2004	9 461	30 961	42 552
2003	7 980	32 132	44 279
2002	7 070	32 522	45 301
2001	7 167	33 560	45 805
2000	6 450	33 440	46 435
1999	6 220	33 953	46 529
1998	5 979	33 291	47 457
1997	5 272	33 230	48 339
1996	5 548	34 132	48 443

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 17

Share of personnel costs in gross costs

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	55.2	58.8	60.6
2008	55.5	59.3	60.6
2007	56.4	60.4	61.5
2006	58.2	61.7	63.5
2005	59.2	63.1	64.9
2004	59.8	64.1	65.8
2003	59.9	64.8	66.6
2002	59.3	64.9	66.4

Source: RWI; Statistisches Bundesamt (Kostennachweis).

5. Time series of general hospitals

Table 18

Share in costs of medical doctors in gross costs

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	17.1	16.8	17.4
2008	16.6	16.5	17.1
2007	16.4	16.3	16.9
2006	15.4	16.1	16.8
2005	15.2	16.2	16.7
2004	14.9	15.9	16.3
2003	14.1	15.5	16.0
2002	13.6	15.2	15.6

Source: RWI; Statistisches Bundesamt (Kostennachweis).

Table 19

Share in costs of nursing services in gross costs

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	18.3	20.1	20.1
2008	18.5	20.5	20.4
2007	19.0	21.1	21.0
2006	19.5	22.0	22.2
2005	20.5	22.8	22.9
2004	20.7	23.7	23.6
2003	21.5	24.4	24.3
2002	21.7	24.8	24.5

Source: RWI; Statistisches Bundesamt (Kostennachweis).

5.3 Medical treatment

This section will use additional data to examine the question of whether the efficiency of privately owned hospitals is achieved to the detriment of medical care / quality. As it turns out, private hospitals by no means score worse in terms of the treatment of patients. On the one hand, the private hospitals treat an older and more complex type of patient, as revealed by a higher CMI. On the other hand, there are no significant differences in medical treatment compared with other hospital owners, for example in the percentage of caesarean sections (Table 20) or the percentage of stillborn children (Table 21). This result is seen in the selection of care hospitals carried out on the basis of FDZ data.

Table 20

Share in the number of deliveries by caesarean sections in all deliveries

1996 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	31.0	30.3	31.2
2008	30.2	29.3	30.2
2007	28.2	28.7	28.9
2006	28.8	27.5	28.5
2005	26.6	26.6	26.8
2004	25.3	25.9	25.7
2003	24.7	24.4	24.8
2002	23.6	23.8	23.4
2001	21.4	22.2	21.4
2000	20.4	20.7	20.6
1999	19.3	19.7	19.5
1998	18.9	19.0	18.6
1997	19.6	18.0	17.6
1996	18.7	17.7	17.0

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 21

Share of number of stillbirths in all births

1996 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	0.24	0.24	0.29
2008	0.20	0.24	0.31
2007	0.17	0.24	0.29
2006	0.26	0.26	0.29
2005	0.23	0.25	0.31
2004	0.23	0.29	0.31
2003	0.23	0.30	0.33
2002	0.25	0.31	0.37
2001	0.30	0.31	0.37
2000	0.30	0.32	0.36
1999	0.25	0.33	0.40
1998	0.28	0.35	0.38
1997	0.30	0.35	0.39
1996	0.31	0.37	0.41

Source: RWI; Statistisches Bundesamt (Grunddaten).

5. Time series of general hospitals

Table 22

Share in the number of outpatient operations pursuant to section 115b SGB V in all cases

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	11.0	11.3	9.6
2008	11.1	10.8	9.5
2007	10.9	10.2	9.0
2006	9.3	9.4	9.0
2005	8.8	8.2	7.9
2004	8.2	6.8	6.4
2003	6.5	3.9	3.7
2002	5.6	2.8	2.8

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 23

Share in the costs of medical supplies (excluding drugs) in gross costs

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	16.7	14.4	13.2
2008	15.6	14.1	13.3
2007	15.3	13.8	12.8
2006	15.0	13.5	12.5
2005	15.0	13.0	12.2
2004	15.2	12.7	11.8
2003	15.3	12.4	11.6
2002	15.2	12.6	11.8

Source: RWI; Statistisches Bundesamt (Kostennachweis).

Table 24

Costs of medical supplies (excluding drugs) per case-mix point

2004 to 2009; in €

Year	Private	Non-profit	Municipal
2009	522	525	503
2008	506	514	501
2007	490	489	479
2006	499	468	452
2005	471	438	429
2004	447	401	404

Source: RWI; Statistisches Bundesamt (Kostennachweis); WIdO (2005-2011).

Table 25

Share of costs of drugs in gross costs

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	3.7	3.7	4.1
2008	3.9	3.7	4.2
2007	4.0	3.9	4.2
2006	4.1	3.8	4.1
2005	4.0	3.7	4.0
2004	4.0	3.6	3.9
2003	4.0	3.6	3.9
2002	4.1	3.7	4.0

Source: RWI; Statistisches Bundesamt (Kostennachweis).

Table 26

Share of costs of drugs per case-mix point

2004 to 2009; in €

Year	Private	Non-profit	Municipal
2009	115	135	156
2008	126	136	158
2007	126	137	158
2006	135	131	149
2005	127	125	141
2004	118	115	135

Source: RWI; Statistisches Bundesamt (Kostennachweis); WIdO (2005-2010).

5.4 Societal aspects

To perform their tasks for society, hospital operators, in addition to providing medical care, also have a duty to make sparing use of public resources, to generate public resources through tax payments, and lastly to train specialist staff. The data reveal that private hospitals receive considerably fewer government grants but pay significantly more taxes than other hospital owners (cf. Table 10). In terms of training costs (Table 27), the private hospitals have a smaller share in gross costs than the other owners. However, this share has increased noticeably since 2002 while remaining constant with the other hospitals. In future – assuming a continuation of the trend and an increasing shortage of specialist staff – it is likely to reach the level of the other hospitals.

5. Time series of general hospitals

Table 27

Share of training costs in gross costs

2002 to 2009; share in %

Year	Private	Non-profit	Municipal
2009	0.56	0.78	0.68
2008	0.53	0.79	0.67
2007	0.56	0.79	0.64
2006	0.80	1.04	0.98
2005	0.42	0.77	0.73
2004	0.46	0.80	0.70
2003	0.35	0.76	0.73
2002	0.31	0.76	0.72

Source: RWI; Statistisches Bundesamt (Kostennachweis).

Table 28

Number of intensive care beds per 100 beds

1996 to 2009

Year	Private	Non-profit	Municipal
2009	5.5	4.3	5.0
2008	5.1	4.2	4.9
2007	4.8	4.1	4.7
2006	4.9	4.1	4.6
2005	4.6	3.9	4.5
2004	4.4	3.8	4.5
2003	4.2	3.7	4.4
2002	4.0	3.8	4.4
2001	3.7	3.8	4.4
2000	3.5	3.7	4.3
1999	3.4	3.6	4.3
1998	3.3	3.5	4.1
1997	3.3	3.4	4.0
1996	3.2	3.3	3.8

Source: RWI; Statistisches Bundesamt (Grunddaten).

Table 29

Number of large medical technology units per 1 000 beds

1996 to 2009

Year	Private	Non-profit	Municipal
2009	19	18	21
2008	18	17	20
2007	17	16	19
2006	16	15	18
2005	14	15	17
2004	13	14	16
2003	13	13	15
2002	12	12	14
2001	5	4	5
2000	4	4	4
1999	4	3	4
1998	3	3	4
1997	3	3	3
1996	3	2	3

Source: RWI; Statistisches Bundesamt (Grunddaten). -As of 2002 the following large medical technology units were captured: Digital subtraction angiography (DSA), scintillation cameras, life support machines and dialysis machines.

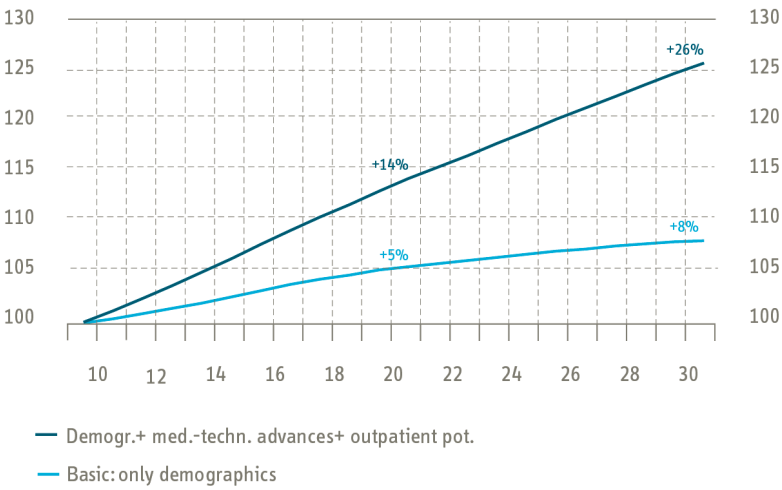
5.5 Available capacities

Sections 4.4 and 4.6 have already shown in an impressive manner that privately owned hospitals participate in making available medical infrastructure to secure generalised hospital care delivery meeting the needs of patients. This is demonstrated once again impressively by the following table of the number of intensive care beds per 100 beds (Table 28) and the number of large medical technology units per 1,000 beds (Table 29) over time. Lastly, the higher investment ratio of the private hospital operators shows that they invest much more in infrastructure than the other operators (cf. Table 11).

6. Outlook

As a result of demographic trends, the potential of the German hospital market will see further growth. That said, it is hard to make a forecast on how the number of cases will develop up to the year 2030. This is something RWI looked at in its 2011 Hospital Rating Report. Based on the demographic trend at the district level, trends in the prevalence rates in the past years, and subject to assumptions on

Diagram 32
Projection of number of cases
2009 to 2030; 2009=100



Source: ADMED, HCB, RWI; FDZ (2011).

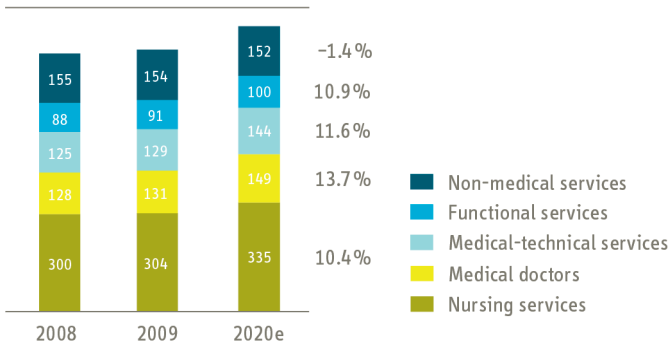
outpatient potential, the number of inpatient cases was extrapolated to 2030. For this purpose, based on the regional use of hospitals in 2008, the regional prevalence rates (inpatient cases per inhabitant) per ICD, age and gender were determined. Taking account of the trend in prevalence rates – possibly caused by advances in medical technology – and outpatient potential, RWI expects to see about 14% more cases nationally by 2020 than in 2009. This corresponds to a average annual increase by roughly 1.2% and would translate into a total increase of 26% by 2030. Assuming constant prevalence rates, the rise would be roughly 6% or 0.5% p.a. by 2020 (Diagram 32).

This shows that the hospital market will continue to be a demand-driven growth market in future as well. Increasingly, however, not only inpatient cases but also outpatient service volumes will play an important role in and at the hospital. This shows all the more that it will be decisive for hospital operators to adjust to the new framework conditions in good time and to prepare themselves for the changing demand with investments, optimised processes as well as adjustments in the structures of service volumes. That will call for a great deal of entrepreneurial savvy and good management as well as investment capital.

Diagram 33

Expected staff requirement

2008 to 2020; in 1 000 full-time employees



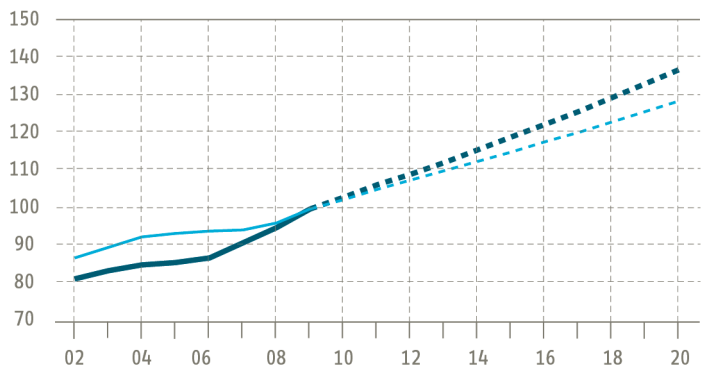
Source: RWI; Statistisches Bundesamt (Grunddaten); Werblow and Schoffer (2010).

In addition, one of the big challenges for all hospital owners will be how to recruit qualified specialist staff. For example, the demographic transformation is resulting in higher demand for healthcare services. At the same time the population on average is greying as fewer persons in employment are expected. Here, too, RWI has estimated personnel requirements up to the year 2020 in its 2011 Hospital Rating Report (Diagram 33).

This forecast is made on the basis of the expected number of cases in the scenario of demographic change, growing prevalence numbers and outpatient potential, the change in duration of stay and a constant level of outsourcing. In 2020, RWI estimates overall a 9% higher personnel requirement than in 2009, which, however, is much higher for medical doctors and is in decline for non-medical services. This increasing shortage of personnel in future will confront hospital owners with huge challenges, both in the area of recruiting and with reference to the expected increase in personnel costs overall.

For medical doctors and non-medical services, the assumption is for considerable wage increases. In principle, these will probably be higher for medical doctors given their greater shortage as compared with the area of non-medical services. For medical doctors, Augurzky et al. (2011) have assumed wage increases to the tune of 3.0% p.a. in 2010 and 2011 and of 2.8% p.a. from 2012. For the area of non-medical services, wages have been expected to climb by 2.5% in each of 2010 and 2011 and 2.2% p.a. from 2012. Also changes in non-wage labour costs were

Diagram 34
Expected costs per full-time employee
2002 to 2020; 2009 = 100



Source: RWI; Statistisches Bundesamt (2011: Verzeichnis).

taken into account, which stood at 38.7% in 2010 and could rise to 40.6% by 2020. Under these assumptions, total costs per full-time employees are the most pronounced for doctors at 37%, and for non-medical services is 29% (Diagram 34). If the volume and price effects are combined, total personnel costs rise by 44% or 3.4% p.a. between 2009 and 2020.

Against this background two things become clear: first, it will be essential for hospitals in future to ensure attractive workplaces if they want to recruit and retain staff. Second, it will be decisive to make sparing use of dear human resources. This is an area in which the private hospitals appear to be already one step ahead of the non-private ones.

Glossary

BDPK	Federal Association of Private Hospitals in Germany *(Bundesverband Deutscher Privatkliniken e.V.)*
BQS	Federal Agency for Quality Assurance *(Bundesgeschäftsstelle für Qualitätssicherung)*
Cash Flow	The monies available to a business. In this Study, we calculate cash flow as net profit plus depreciation on assets financed from own funds
CM	Case mix - Total of all relative weightings of DRGs performed in a hospital
CMI	Case mix index - average relative weighting of a hospital or specialist department: case mix divided by the number of cases
DKG	German Hospital Association *(Deutsche Krankenhausgesellschaft)*
DRG	Diagnosis related groups – remuneration-uniform case groups to which each case is attributed depending on diagnoses and the procedures performed. In 2012, 1,193 different DRGs are available. Each DRG has a relative weighting that is the same in every hospital throughout Germany
EBITDA	Earnings before interest, taxes, depreciation, and amortization - this is operating earnings, i.e. revenue after deducting personnel and material costs. It is a business ratio that provides a relatively good approximation of a company's cash flow. EBITDA margin
EBITDAR	Earnings before interest, taxes, depreciation, amortization and rents
Equity ratio	Equity capital divided by balance sheet total
Equity ratio with special item	Equity capital including special item divided by balance sheet total
FDZ	Research Data Center of the State Statistical Offices *(Forschungsdatenzentrum der Statistischen Landesämter)*
FT	Full-time employee
GDP	Gross domestic product

Glossary

HGB	German Commercial Code *(Handelsgesetzbuch)*
HGB balance sheets	Income is equal to sales plus other operating income
ICD	International Statistical Classification of Diseases
Income	Total of revenue income, changes in holdings, recognised own services and other operating income
KHG	Hospital Financing Act *(Krankenhausfinanzierungsgesetz)*
Material costs	Material expenditure (consumables and supplies, merchandise and services)
Non-p.	Non-profit
P&L	Profit and loss statement (also known as income statement) - list of a company's expenditures and income for a certain period, normally a financial year
Personnel costs	Total of gross wages and salaries, social security contributions, pension expenditures
Probability of default	Probability of occurrence of a credit default, as a rule with reference to a 1-year horizon.
Rating	To assess a debtor's solvency, rating classes are formed. A debtor is assigned to a category in a bank-internal rating according to bank-internal criteria, and with internationally operating rating agencies such as Moody's, Standard & Poor's or Fitch the assignment is effected following a comprehensive assessment of the company
Relative weighting	Weighting of a DRG under the remuneration system based on DRG case flat rates; the remuneration of a DRG is obtained by multiplying its relative weighting and base rate
SGB	German Social Insurance Code *(Sozialgesetzbuch)*
SHI	Statutory health insurance
Special item ratio	Special item divided by balance sheet total
TK	*Techniker Krankenkasse*
WIdO	Research Institute of the AOK *(Wissenschaftliches Institut der AOK)*

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