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DO HOSPITAL MERGERS LEAD TO HEALTHY PROFITS?

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Abstract

There have been a number of hospital mergers in the last decade that have resulted in increases in concentration in an already highly concentrated market. Frequently these have been opposed by the Competition Commission and interveners, but have very often ultimately been approved by the Competition Tribunal. Merger analysis in such cases is often complicated, trying to understand the impact of a merger for national bargaining with medical schemes (including the role of regional dominance on such negotiations), local competition for specialists and local patient flow. Given the complexity of the merger analysis and differences in opinions as to effects, there is a strong case to conduct an ex-post analysis of how mergers may have impacted on the ability of merging parties to exercise market power. This would provide a stronger basis to understand how future mergers may impact on competition.

In light of information limitations, this paper aim to examine the simplest expression of market power, namely overall profitability. In doing so, it attempts to determine whether the incremental mergers that have taken place have resulted in changes to profitability for the remaining hospital groups. In particular, using publically available information contained in annual reports going back to 1988 for Mediclinic and 1997 for Netcare, this paper aims to construct inter-temporal return on capital employed (ROCE) estimates for the major listed hospital groups to determine trends in profitability.

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I. INTRODUCTION

Health care costs are currently a topical issue in South Africa. The present Minister of Health recently expressed concern with the high cost of private health care and the Competition Commission has indicated that it is considering a market-wide investigation of the sector (Visser, 2011). A particular area of concern for authorities in the health care sector is the private hospital market.

Private hospitals have seen a number of mergers in the last decade, which has resulted in increases in concentration in an already considerably concentrated market. Frequently these mergers have been opposed by the Commission and interveners, but have ultimately been approved by the Tribunal. Merger analysis in such cases is often complicated, trying to understand the impact of a merger for national bargaining with medical schemes (including the role of regional dominance on such negotiations), local competition for specialists and local patient flow. Given the complexity of the merger analysis and differences in opinions as to effects, there is a strong case to conduct an ex-post analysis of how mergers may have impacted on the ability of merging parties to exercise market power.

In light of the limitations on available information, this paper aims to examine the simplest expression of market power, namely overall profitability. In doing so, we attempt to determine whether the incremental increases in concentration that have taken place have resulted in changes to profitability or not. In particular, using publically available information contained in annual reports for Mediclinic and Netcare, we construct inter-temporal estimates of return on capital employed (ROCE) and return on sales (ROS) for these two major listed hospital groups to determine trends in profitability.

II. MERGERS IN THE PRIVATE HOSPITAL SECTOR

With three large firms accounting for close to 80 per cent of the market, the private hospital sector in South Africa is a highly concentrated market. The largest of the hospital groups, Netcare, occupies almost 30 per cent of the market, with the other two players, Life and Mediclinic each having around 25 per cent of the market.[2] The degree of concentration matters, particularly since the banning of centralised bargaining by the Competition Commission in 2003. Since then, each hospital provider negotiates prices with each medical scheme or their administrator on an individual basis, setting national prices for all of the hospitals included in the group umbrella.

Commentators have argued that under decentralised negotiations, market concentration confers on hospitals bargaining power vis-à-vis medical aids (McIntyre *et al*, 2007). The view put forward is that due to there being fewer alternative healthcare service suppliers, medical schemes are forced to accept unfavourable terms from hospitals which result in them accepting high prices and price increases (Council for Medical Schemes, 2008). Open medical schemes require a national network of hospitals, which implies that the scheme will have to contract with all of the hospital groups, as not even the large hospital groups on their own have a sufficiently large footprint around which a scheme can be constructed.[3] While a hospital group may be well represented in one geographical area, it may be absent in another. As such, a scheme cannot credibly threaten to exclude an entire hospital group if they do not come to some form of agreement around tariffs. It is in this context that the notion of regional dominance becomes particularly relevant - if a hospital enjoys regional dominance, then it is argued that it becomes a “must-have” hospital for the medical scheme,

[2] Based on the number of total beds for 2009, as provided by HASA: http://www.hasa.co.za/about/what/
[3] Netcare Hospital Group and Community Hospital Group Case No. 68/LM/Aug06: para. 82

providing the hospital group with market power in the determination of prices at a national level.[4]

There is a limit on the medical schemes' ability to exert countervailing power. Other forms of constraints on pricing are not evident either. First, hospitals are not subject to any form of pricing regulation. While guideline tariffs have been published periodically, these are not binding. Secondly, this is not a market where entry by new players is observed. In the *Phodiclinics/Protector Group Medical Services* matter, the Tribunal found that there are significant barriers to entry, contributing to the high levels of concentration in the industry[5], including the extent of regulation, the costs of construction and the expertise required to successfully run a hospital. The limited entry into the market reflects the high barriers to entry. It appears that only two independently-owned hospitals (i.e. not owned by the three large hospital groups) were built in the last five years: Hillcrest and Ethekwini.[6]

The hospital market has not always been this concentrated. Between 1996 and 1998, based on the number of acute hospital beds, the market share of the three main hospital groups was 51 and 55 per cent respectively (Council for Medical Schemes, 2008). As shown in the table below, the market became increasingly concentrated after 1998 and by 2000 the market share of the big three hospital groups had increased to 70 per cent. A three-firm concentration ratio ("CR_3") indicates that concentration has gone from approximately 51 per cent in 1996 to 84 per cent in 2006.

Table 1: National market shares for private hospital sector based on acute beds (1996–2006)

	1996	1998	2000	2002	2004	2006
Netcare	20%	24%	29%	29%	30%	31%
Mediclinic	19%	19%	20%	25%	24%	25%
Life Healthcare	12%	12%	21%	23%	28%	28%
CR_3	51%	55%	70%	77%	82%	84%

Source: Council for Medical schemes (2008) "Evaluation of Medical Schemes' Cost Increases: Findings and Recommendations": p. 28

Therefore, by the time merger control was introduced towards the end of 1999, the hospital market was already concentrated. Since then, a number of hospital mergers have been heard before the Tribunal – all of them have all been approved, one with conditions. This resulted in a steady rise in the market shares of the largest three providers, increasing their combined share to 84 per cent by 2006. Considering more recent data published by the Hospital Association of South Africa (HASA), it would appear that the trend in increasing market shares for the big three hospital groups has continued to some extent after 2006: based on total number of beds, the CR_3 increased from 75 per cent in 2006 to 79 per cent in 2009.[7]

That mergers have been approved in an already concentrated market is a point of contention, particularly as the Commission and indeed other interveners have sought to prohibit some of the larger mergers. Appendix 1 of this paper seeks to summarise the key points that emerge from the Tribunal rulings in respect of the hospital mergers that it has assessed. The assessment of mergers in the hospital market is complex, as competition amongst hospitals takes place at a number of levels, including competition for patients,

[4] Phodiclinics and Protector Group Medical Services Case No. 122/LM/Dec05: para. 127
[5] Phodiclinics and Protector Group Medical Services Case No. 122/LM/Dec05: para. 125
[6] Hillcrest is an independently owned hospital, managed by HealthShare. Lenmed owns 35% of Ethekwini.
[7] See the HASA website (available at http://www.hasa.co.za/about/what/). These market shares appear to be based on total number of beds, which is seemingly the reason for the different shares compared to those based on the number of acute hospital beds.

competition for doctors and specialists and competition at the funding level. And while prices are determined nationally, regionally dynamics do matter as patients and doctors are often only willing to travel to hospitals within a certain geographic area. The focus of the analysis has often been on the extent to which regional dominance extends to pricing power at the national level.

In assessing the mergers, the Tribunal has found on numerous occasions that the relative bargaining power of funders vis-à-vis providers would not change significantly as a result of a particular merger. In the Afrox Healthcare/Amalgamated Hospitals merger, the countervailing power of healthcare funders remained intact as centralised bargaining limited the ability of hospitals to control prices.[8] Even after centralised bargaining had been abandoned, the case that relative bargaining power had not changed significantly was made in a number of cases. Both *Netcare/CHG* and *Phodiclinics/Protector Group Medical Services* were approved as it was found that the transactions did not alter the state of competition in a significant way. In the *Netcare/CHG* merger, the Tribunal found that the merger would not have an impact on Netcare's existing bargaining power in national tariff negotiations.[9] In the *Phodiclinics/Protector Group Medical Services* merger, the increase in market share was small at the national level – the level at which tariffs are determined. This merger did lead to high shares at a regional level, increasing the market share from 43 per cent to 71 per cent in the Vaal Triangle. The argument was made that hospital groups already had regional dominance and so the merger was unlikely to leverage hospitals relative to funders in negotiations. Discovery Health, for instance, determined that the transaction would not impact on national negotiations, stating further that the three large hospital groups already enjoyed regional dominance.[10] The Tribunal found that it was unlikely that hospitals would be able to raise tariffs or resist price-limiting innovations like preferred provider agreements.[11] The consideration that Protector Group Services was a failing firm also played an important role in this decision, with the Tribunal finding that its exit would bring about a lower level of consumer welfare than if the merger was permitted. [12]

III. MERGERS AND THEIR IMPLICATIONS FOR PROFITABILITY

Profitability analysis is a tool used for the assessment of market power or the degree of competition in the market. Market power is defined in terms of a firm's ability to profitably maintain prices above competitive levels. Under conditions of perfect competition, prices are set at cost, which includes a reasonable margin to cover the cost of having to reward the providers of capital. In contrast, in markets that exhibit monopolistic features, economic theory suggests that a profit-maximising firm will set prices in excess of cost, while market outcomes in oligopolistic market can fall anywhere between highly competitive outcomes to situations where prices are set close to monopoly levels. One way to determine if a firm has market power is therefore to assess whether it has been making profits in excess of the normal return (Office for Fair Trading, 2003).

Evaluating profitability over time may reveal to what extent increased consolidation in the market through mergers has led to an increase in profitability – and hence an increase in market power – over time. Mergers may improve profitability through the leveraging of additional market power. The elimination of competitors and ensuing increase in market concentration may enable firms to charge higher prices, thereby raising profits to the detriment of consumers. The link between profitability and industry concentration has been thoroughly dealt with in the economics literature, both at the theoretical and empirical level.

[8] Afrox Healthcare Limited and Amalgamated Hospitals Limited, Case No. 53/LM/Sep01
[9] Netcare Hospital Group and Community Hospital Group Case No. 68/LM/Aug06: para. 70
[10] Phodiclinics and Protector Group Medical Services Case No. 122/LM/Dec05: para. 138
[11] Phodiclinics and Protector Group Medical Services Case No. 122/LM/Dec05: para. 144, 158
[12] Phodiclinics and Protector Group Medical Services Case No. 122/LM/Dec05: para. 144, 158

As Davis and Garcés (2010:288) state, the idea that "a market with few firms, or a market with one or two very big firms, may be one where firms can exercise market power through high markups is [an] intuitive [one]".[13] These authors go on to state that "[f]irm size and industry concentration are the most commonly used structural indicators of profitability and both are thought to be positively correlated with market power and margins" (Davis and Garcés, 2010:286).

Of course, there are limitations to this analysis. The most obvious limitation is the link between enhanced efficiency of the firm's operations and increases in profitability. Indeed, realising efficiency gains is a key motivation for firms to engage in merger activity (Andrade *et al*, 2001). There are a number of reasons why mergers may promote efficiencies, including the attainment of scale economies, creating synergies and improving management (Carlton & Perloff, 1994). Thus, an improvement in profitability may merely reflect efficiency gains and not increases in market power. However, it must be noted that a review of the Tribunal hospital merger decision suggests that efficiencies considerations did not prominently feature as a rationale for the mergers in the hospital sector.

A further limitation of a simple analysis of profitability over time is the fact that it does not control for changes in the market, even though profitability may be expected to vary with changes in market conditions. Perhaps the most significant change experienced in the hospital sector is the shift from joint negotiations to decentralised price-setting which has implications for the bargaining dynamics between the medical schemes and hospitals – and hence implications for market power.

The South African health care market has also seen shift in demand over the last two decades for two primary reasons. First, it appears concerns over the quality of public health care have resulted in a migration toward private facilities (Havemann & Van Der Berg, 2003). Secondly, it has been claimed that an increased burden of disease and changing age profile has impacted on the utilisation of hospital services (Hospital Association of South Africa, 2008). Assuming costs remain unchanged, it is plausible that profit margins would increase with a shift in demand. With barriers to entry in the hospital market, any supply response would be muted – allowing for persistently above-normal profits. However, detractors would argue that the increase in demand for hospital services is in and of itself a reflection of market power, as providers are able to engage in the over-supply of hospital services, without the market disciplining needed to curtail this type of conduct (Council for Medical Schemes, 2008).

Despite these limitations, an analysis of hospital profitability remains useful. Importantly, it provides an indication of any changes in profitability over time, which might suggest if there is cause for concern or not. Should there be no observable change, one may be less concerned about mergers and increased market power when assessing mergers going forward. If there is a noticeable change, it may suggest that there is a basis to argue for stricter merger control going forward. Moreover, it may indicate that further work is warranted to pin down the precise reason for the higher profitability (whether it be market power or some other factor). A comparison of profitability to appropriate benchmarks may also reveal how well the competitive process in a market is working and whether intervention in the market by the authorities is necessary.

[13] Assuming a static structure to the market, the same outcomes of this structure-conduct-performance (SCP) paradigm can be obtained using game theory, or what is referred to as the New Empirical Industrial Organisation (NEIO). Importantly, however, this is not to say that structure directly causes high margins. Rather, both of these aspects may be determined simultaneously.

IV. METHODOLOGY FOR ESTABLISHING PROFITABILITY

Measuring profitability for competition analysis is a well-documented practice, particularly in the UK where market investigations make use of various profitability ratios for determining the existence of market power. These ratios include return on sales (ROS), return on capital employed (ROCE) and internal rate of return (IRR). The primary attraction of the ROS measure (earnings before interest and tax [EBIT] as a percentage of sales) is that it is relatively straight forward to calculate as it only requires data on operating profits and net sales, which are observable from published financial statements. For this reason, we began our profitability analysis using this measure.

Estimates of ROS[14] on their own provide limited insights on the market power of a firm as different industries will be populated by firms with varying degrees of asset intensity, and therefore different cost structures. Accordingly, ROS results for a firm should be compared with the ROS derived by similar firms in other (less concentrated) markets. More importantly, an analysis of the ROS ratio should be supplemented with ratios that take account of the firm's capital structure, such as the ROCE or IRR. These are usually the profit ratios of choice for the OFT and UK Competition Commission for their market investigations.[15][16] The additional benefit of these ratios is that their outputs can be directly compared against the firm's cost of capital (which serves as a reasonable profit benchmark), and they can also be compared against the ROCEs and IRRs of comparable companies.

The ROCE requires estimates of capital employed and more specifically, estimates of debt and equity. Given that debt and equity are not usually specific to individual business activities within a firm, the values of fixed assets and working capital are usually taken as a proxy for capital employed. However, fixed assets must be valued on a replacement cost or modern equivalent asset valuation as this valuation measure is consistent with the construct of economic profitability. A detailed discussion on the rationale of the replacement cost methodology can be found in the OFT discussion paper on profitability in competition policy analysis.[17]

Our analysis has sought to answer two questions. *First*, has profitability of the South African hospital sector increased during the period of increased market concentration? *Secondly,* are current levels of profitability in the South African hospital sector "high" relative to the profitability benchmarks used by competition authorities?

These questions required us to assess the profitability of the two largest hospital groups in South Africa, Netcare and Mediclinic.[18] Both companies have produced audited financial statements over the period corresponding with increased market concentration. Financial data for Netcare is publically available for the years 1997 to 2011, and for Mediclinic, financial data is available for the years 1987 to 2011 (although only computable from 1988).

To answer the first question, we calculated both firms' ROCE for their South African operations for each year of the above periods. An upward trend in this ratio for both firms would show that increased market concentration has corresponded with increased profitability.

[14] Expressed alternatively as earnings before interest and taxes divided by net revenue
[15] See Office for Fair Trading (2003) and UK Competition Commission (2003).
[16] There is also precedent for using ROCE in hospital market analysis – the National Health Service (NHS) hospitals in the UK are regulated on the return on their capital assets. See Popper (1996).
[17] See Office for Fair Trading (2003).
[18] We also analysed the profitability Life, but only under the ROS measure due to the limited availability of financial data.

To answer the second question, we compared our calculated ROS and ROCE of these firms against two types of profitability benchmarks:

i. The average[19] ROS and ROCE of 82 hospital comparator companies operating in foreign countries[20] for the four most recent financial years.
ii. Our derived cost of capital of these firms for the four most recent financial years.

Table 2 summarises our approach for answering the two questions outlining the ratios, comparators and financial years used.

Table 2: Approach to answering the two questions

Question	SA Hospital firm	Ratio	Comparators	Years
1. Profitability increased with concentration?	Netcare	ROCE	-	1997 to 2011
	Mediclinic	ROCE	-	1988 to 2011
2. Are current levels of profitability high?	Netcare	ROS & ROCE	82 hostpital firms	2008 to 2011
	Mediclinic	ROS & ROCE	82 hostpital firms	2008 to 2011
	Netcare	ROCE	Cost of capital	2008 to 2011
	Mediclinic	ROCE	Cost of capital	2008 to 2011

In calculating the ROS, estimates of net sales and operating profit were obtained from the segmental analysis of Netcare and Mediclinic's audited financial statements in the years when the group accounts included the revenue and operating profits of their foreign operations. For the ROCE, estimates of capital employed were derived from either the combination of fixed assets and working capital, or deducting current liabilities from total assets. The segmental analysis of Netcare and Mediclinic does not separate working capital or current liabilities between the South African and foreign operations, so proxies were derived using the proportion of revenue accounted for by the South African businesses of each of the two firms.

Netcare's and Mediclinic's financial statements generally reported their property, plant and equipment on an historical cost basis. ROCE calculated on this basis is likely to overstate the true level of economic profitability, particularly if assets were acquired many years prior to the analysis period. Accordingly, we uplifted the value of property, plant and equipment to take account of movements in South Africa's producer price index (PPI)[21] over the period, assuming that Netcare and Mediclinic's assets were acquired at fair value in 1997 and 1987 respectively. For example, the PPI increased five-fold over the 1987 to 2011 period, and therefore we uplifted the gross value of assets acquired in 1987 by the same factor when calculating capital employed in 2011.

The gross uplifted asset value must be offset by accumulated depreciation, as this reflects the extent to which assets have been used in each year of the assessed period. In calculating depreciation, we assumed that Netcare's and Mediclinic's property, plant and equipment were acquired "as new" in 1997 and 1987 respectively, and depreciated according to asset lives disclosed in the companies audited financial statements.

[19] Averages were calculated
[20] These comparator firms operate in countries in North America, Europe, Asia and South America. Financial data of these firms were obtained from Infinancials.
[21] More specifically, we applied the civil engineering plant series of the PPI.

The asset life assumptions we applied were as follows:

- Netcare Land and Buildings – 60 years[22]
- Netcare Plant & Equipment – 8 years
- Mediclinic Buildings – 50 years
- Mediclinic Equipment – 5 years
- Mediclinic Furniture and Vehicles – 8 years

The cost of capital for the two companies was calculated using the capital asset pricing model (CAPM) for the cost of equity and the company's own financing costs for the cost of debt. The CAPM requires estimates of the risk free rate, equity risk premium and the equity beta. These were calculated as follows period covering the availability of Netcare's and Mediclinic's financial data:

- Risk free rate: calculated as the average yield to maturity for ten year (or greater) South African government bonds
- Equity risk premium: obtained from the 2012 Credit Suisse Global Investor Yearbook, which contains estimates of the premium return from South African equities over South African government bond yields for selected periods between the years 1900 and 2011 (Credit Suisse Research Institute, 2012).
- Equity beta: calculated as the average of Netcare's and Mediclinic's actual observed equity beta and the betas observed by the 82 comparator firms over the last four financial years (adjusted for differences in gearing).

The cost of debt and gearing were obtained from Netcare and Mediclinic's audited financial statements. More specifically, we calculated costs of debt by dividing the net financing costs as disclosed in the income statement by interest-bearing liabilities as disclosed in the balance sheet, for each year. Gearing was calculated by dividing interest-bearing liabilities by the combination of the same and shareholder's funds.

V. RESULTS AND DISCUSSION

Figure 1 highlights the calculated ROCE for Netcare and Mediclinic for each year where financial data was available.

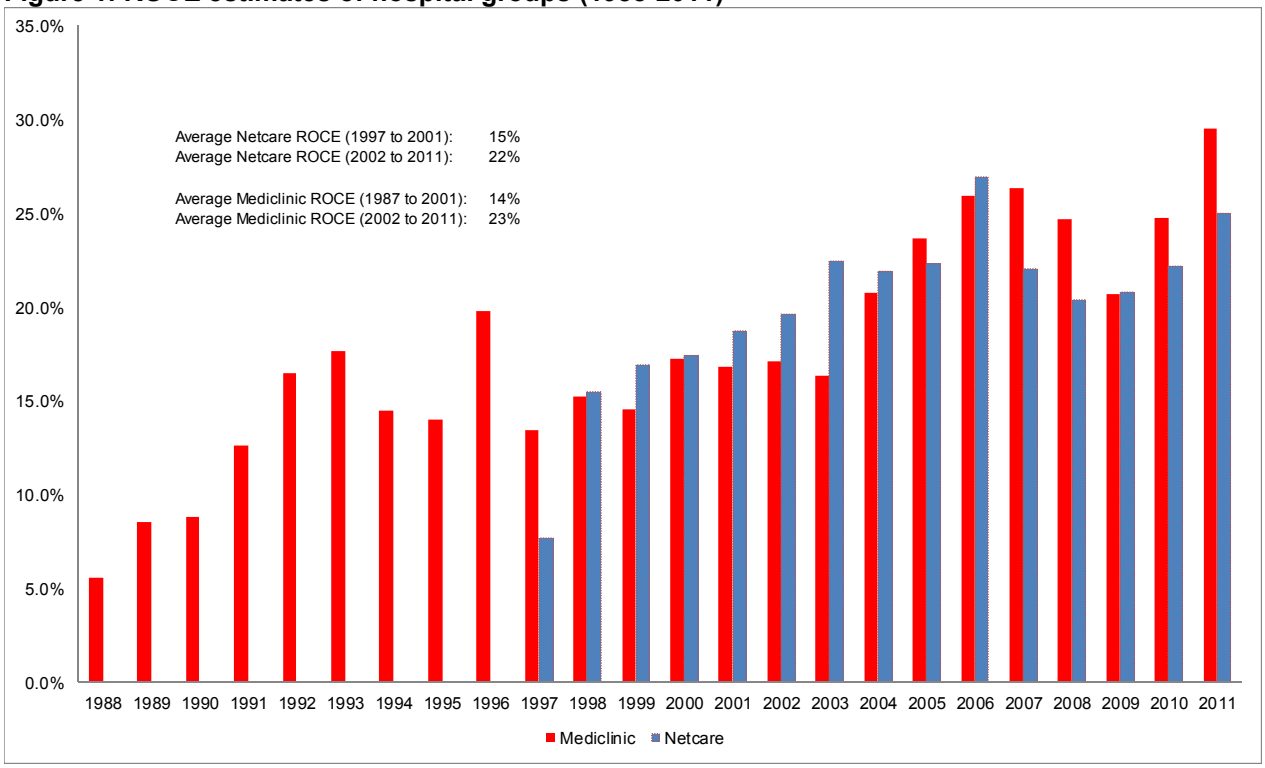
Immediately clear is the steady increase in ROCE for both the hospital groups over each of the relevant periods. The first year of computable data for Mediclinic is 1988, where a ROCE of 5.6 per cent was achieved. This was followed by a number of years of relatively low, although consistently improving, ROCEs. By 1998, Mediclinic's ROCE was 15.2 per cent, increasing to 27.30 per cent by 2011. Netcare, South Africa's largest private hospital group, was listed on the JSE in 1996. In 1998, Netcare's ROCE was 15.4 per cent, which is similar to that of Mediclinic's for the same year. Netcare's ROCE also increased thereafter, reaching 25.0 per cent by 2011.

To highlight the increasing ROCE trend over the period, we calculated average ROCEs for two sub-periods; 1987 to 2001 and 2002 to 2011. This split was chosen on the basis that the

[22] Land and buildings are not separated in Netcare's financial statements. As land is never depreciated, the stated asset life assumption for both land and buildings has been discretionally adjusted upwards from 50 years to 60 years.

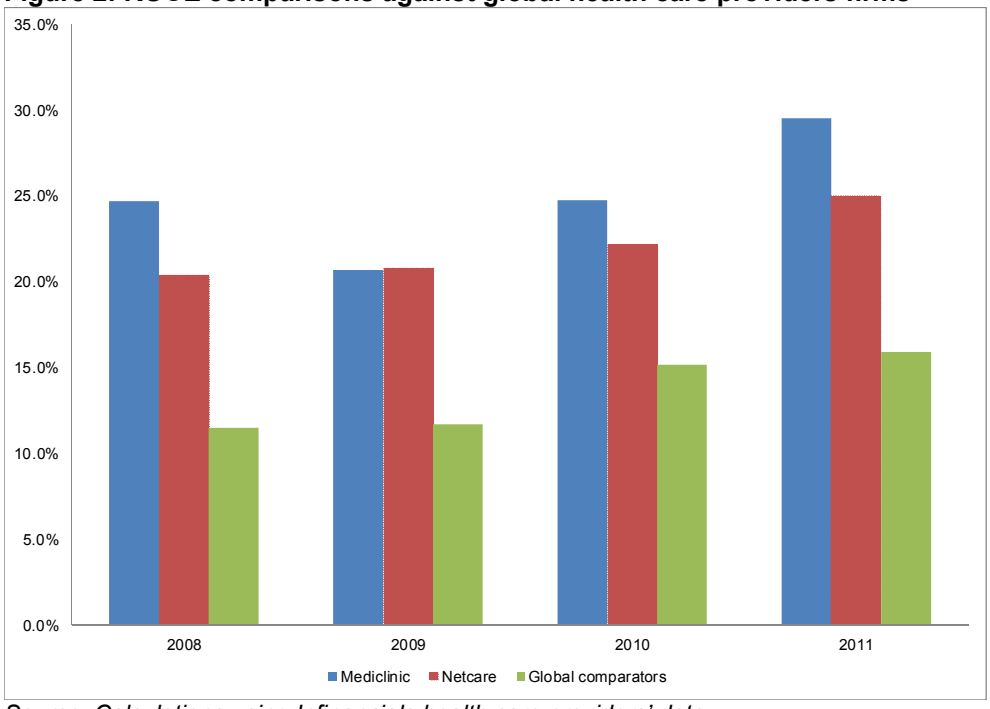
first hospital merger under the Competition Act was approved in September 2001. Figure 1 shows that for Netcare and Mediclinic, average ROCEs in the 2002 to 2011 period were significantly greater than the 1987 to 2001 period. These result support the view that hospital profitability and market concentration are correlated and that our first question can be answered in the affirmative.

Figure 1: ROCE estimates of hospital groups (1988-2011)



Source: Calculations using Netcare financial statements (1997-2011) and Mediclinic financial statements (1988-2011)

Figure 2: ROCE comparisons against global health care providers firms

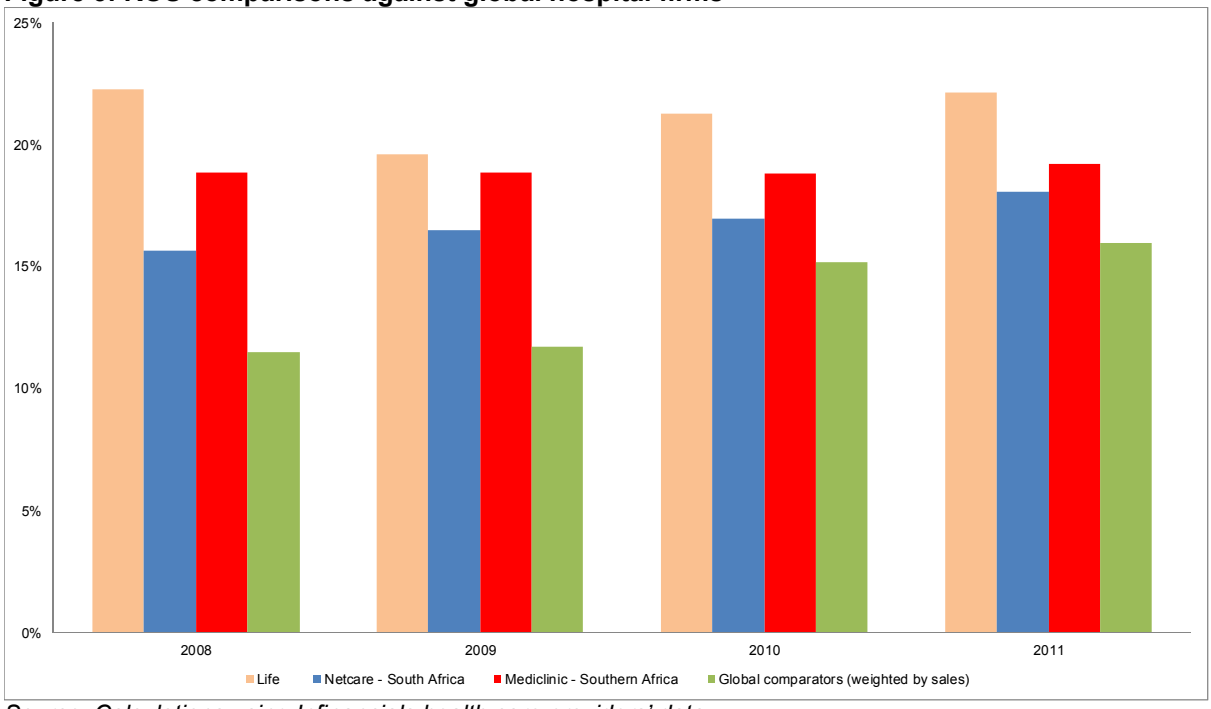


Source: Calculations using Infinancials health care providers' data

Our second question requires us to compare Netcare and Mediclinic's profitability against our two selected profitability benchmarks; global hospital firm comparators profitability and Netcare and Mediclinic's cost of capital. Figure 2 shows a comparison of Netcare and Mediclinic's ROCE against the average ROCEs of 82 global hospital firms for the four most recent financial years.

Figure 3 shows a comparison of Netcare and Mediclinic's ROS against the average ROS of 82 global hospital firms for the four most recent financial years. The ROS of Life Healthcare was also included as its revenue and operating profit data was available for these years.

Figure 3: ROS comparisons against global hospital firms



Source: Calculations using Infinancials health care providers' data

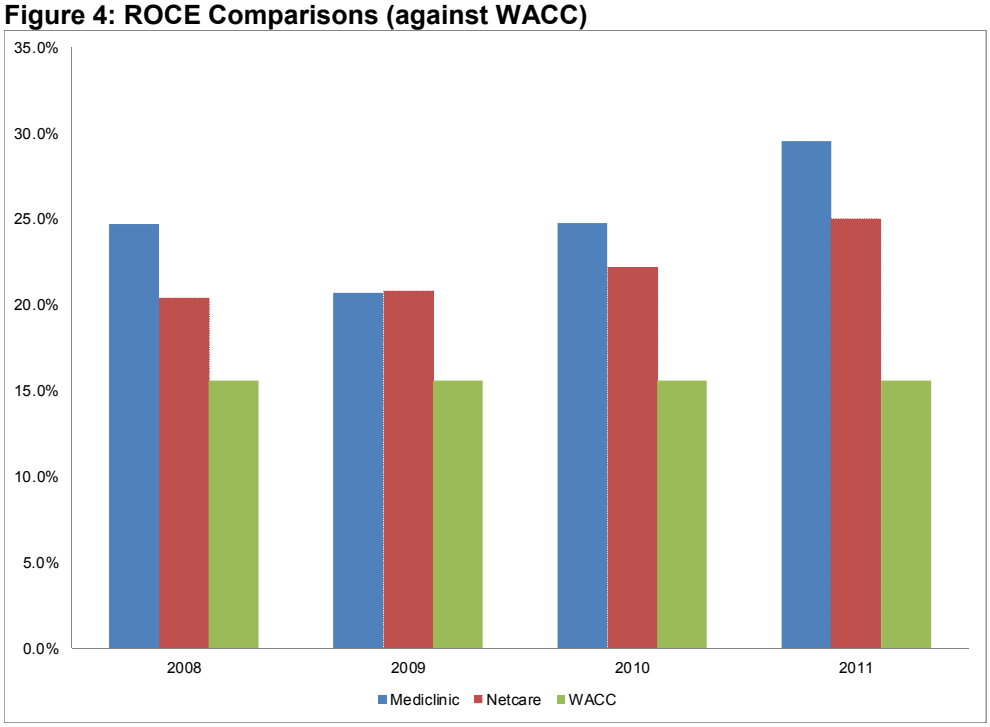
The above two figures show that under both the ROCE and ROS measures, Netcare and Mediclinic were clearly more profitable in recent years than hospital groups operating in other jurisdictions, on average. Life Healthcare's ROS is also significantly above the global average. One possible reason for the level of profitability achieved by these hospital groups may be due to their relatively high cost of capital. More specifically, financing costs in South Africa could be significantly higher than the financing costs incurred by the comparator firms.

To evaluate this, we calculated the average pre-tax weighted average cost of capital (WACC) for both companies covering the period where financial data for these companies were available. We adopted this periodical approach due to the long-term nature of the assets acquired during the recent merger activity. We note that our long-term average WACC estimate is likely to be greater than current WACC estimates due to the current relatively low interest rates. For example, South African government bond yields were around 8 per cent in 2011, compared to 15 per cent in 1997. Accordingly, our WACC estimates are likely to overstate current financing costs.

Our 1997 to 2011 WACC estimate for Netcare was 15.6 per cent. Our 1988 to 2011 WACC estimate for Mediclinic was 9.9 per cent. The difference between the two estimates arises largely from differences in net financing costs (Mediclinic's financing costs appears to be artificially low) and equity betas. To accommodate further conservatism in our ROCE/WACC comparison, we applied the higher WACC (Netcare's) estimate for both companies. Figure 4

shows a comparison of Netcare and Mediclinic's ROCE against our WACC estimate for the four most recent financial years.

Figure 4: ROCE Comparisons (against WACC)



Source: Calculations using Netcare and Mediclinic data

Figure 4 shows that both Netcare and Mediclinic have recently derived profits above their financing (equity and debt) costs. For example, Mediclinic's ROCE was 30 per cent in 2011 compared to our WACC estimate of 15.6 per cent. Such a gap has been judged to be significant in recent profitability assessments undertaken by UK regulators:

- Ofcom recently determined that the profitability gap (IRR and ROCE in excess of WACC) of around 9 per cent for Sky was "significant"

- The UK Competition Commission inquiry into supply of banking services to small- and medium-sized enterprises (SMEs) found that a profitability gap of 9, 10 and 12 per cent in 1998, 1999 and 2000 respectively for the four largest clearing groups was considered high and implemented remedies accordingly, i.e. imposing a requirement on banks to pay interest on current accounts. Since this was an inquiry and not an investigation, the Commission did not impose a fine based on these differentials.

This suggests that current profits derived in the South African hospital sector are "high" and that that our second question can also be answered in the affirmative.

VI. CAVEATS AND POSSIBLE EXPLANATIONS FOR THE RESULTS

Although, the results of our analysis appear to provide strong evidence of market power in the South African hospital sector, it is necessary to list several caveats to our profitability analysis.

First, the data is generally not disaggregated; it is based on segmental analysis disclosed in the consolidated financial statements. Financial accounts had to therefore be carefully constructed to strip out foreign operations and focus only on local hospital operations. Further, the complex nature of the Mediclinic and Netcare groups (through foreign

subsidiaries, multi-product services in SA, etc.) makes our calculations approximations rather than accurate descriptions of profitability.

Secondly, other factors may have contributed to the increased profitability, such as the end of centralised bargaining, which was deemed to be anti-competitive by the Competition Commission in 2003. Subsequently, negotiations between medical schemes and hospital groups have taken place on a one-on-one basis, where individual medical aids bargain with hospitals or hospital groups. This is expected to have impacted on bargaining dynamics and the resultant market power held by hospitals. Recent calls by the Minster of Health for the reinstatement of collective negotiations reflects the view that the shift to decentralised negotiations has limited the ability of medical schemes to constrain hospitals, leading to rising costs in the private health care sector (Buthelezi, 2012).

Thirdly, efficiencies achieved during this period as well as shifts to demand could also impact on the results, suggesting that caution must be made when drawing direct inferences between increasing profitability and rising market power.

VII. CONCLUSION

The topic of health care and its associated costs is likely to remain relevant in South Africa going forward. In a market concentrated in the hands of three firms, concerns have been expressed over the competitive and accompanying welfare effects.

We show that increases in market concentration have corresponded with a period of higher profitability. Furthermore, the returns earned by South African hospital groups appear to be above benchmarks used by UK competition authorities in their profitability analysis.

Ascribing a causal reason to these findings from the available data, however, is problematic. What our findings do tentatively indicate to is that there is scope for further research into the competitive dynamics of the hospital market. While noting that efficiency considerations are a potential source of increased profitability, the marked change in the manner in which hospital tariff negotiations have taken place since the dissolution of centralised bargaining in 2004 necessitates a closer look at the relative market power between hospital groups and health care funders. A sufficiently robust profitability analysis will require access to detailed financial documents such as management accounts and asset registers for each of three hospital companies.

Although mergers in the sector have not previously raised concern with the Competition Tribunal because of their small overall impact on concentration, the structure of the private hospital market may necessitate a more considered view, especially in light of what can be described as “creeping mergers”.

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APPENDIX 1: LIST OF MERGERS SINCE 2000

Case	Tribunal Decision
Afrox Healthcare and Amalgamated Hospitals Case No. 53/LM/Sep01	*Decision:* Unconditionally approved *Merger rationale:* Transaction is part of a strategy to expand its regional footprint in KZN. The aim is to create a "critical mass" that will warrant future investment (efficiency defence); opportunity to unlock synergies – consolidation of neurology, neurosurgery and cardiothoracic and cardiology units; unlocking shareholder value, as doctors are no longer permitted to have large holdings in hospitals. *Market definition:* Market is defined as a private national hospital market or a narrower geographic market. *Reasons for decision:* Merger could not negate significant countervailing power of healthcare funders and would not limit ability of other hospitals to compete for doctors' referrals (centralised bargaining inhibits hospitals abilities to control prices and private hospitals compete based on quality, new equipment and a wide range of services). Although market concentration high, entry inhibited by moratorium on hospital building.
Afrox Healthcare and Wilgers Hospital Case No. 15/LM/Feb02	*Decision:* Unconditionally approved *Merger rationale:* Geographic presence in East of Pretoria, which Afrox does not currently have; unlocking shareholder value, as doctors are no longer permitted to have large holdings in hospitals. *Market definition:* Relevant market is private hospital services in Pretoria (or narrower). *Reasons for decision:* Although the merger with Wilgers would result in AHL moving from third largest to second largest hospital in Pretoria, this would not be for long since Curamed is expanding. Also, competition is affected by more stakeholders than other hospitals including government, healthcare funders, medical practitioners and patients.

Mediclinic and Curamed Case No. 74/LM/Oct02	*Decision:* Unconditionally approved *Merger rationale:* Not provided *Market definition:* Relevant market is private hospital services in Gauteng. *Reasons for decision:* Merged entity will enjoy a market share of 16.3% in Gauteng, its major competitors will be AHL and Netcare Groups and there are 8 independent hospitals in the area as well.
Business Venture Investments and Afrox Healthcare Case No. 105/LM/Dec04	*Decision:* Approved with conditions. *Merger rationale:* Current owner (African Oxygen) wanted to realise investment and sell off its healthcare business. *Market definition:* Relevant market is private hospital services at a national level or local level. *Reasons for decision:* Although competition concerns arose from background of the transaction and vertical integration, transaction is important for BEE. Mediclinic's exclusion from the transaction and conditions that eliminate cross-holdings and restrict equity sales should ensure consumers not disadvantaged.
Mediclinic and Wits Medical Case No. 75/LM/Aug05	*Decision:* Approved *Merger rationale:* To provide Mediclinic with up-to-date evidence-based medicine from this academic hospital, a training facility for exposure to specialists, and potential accreditation of other Mediclinic hospital units with the Wits brand. *Market definition:* Relevant market is private hospital services at a national level or local level. *Reasons for decision:* Low initial market share of WUDGMC (3% locally, 0.9% nationally) means not an effective competitor before merger. If market local, merged entity's market share increases by 10-14% with largest competitors Netcare (55.8%) and Life (30%). If market national, merged entity's market share (30.4%) larger but still below Netcare (36.6%) and Life (32.9%).

Phodiclinics and Protector Group Services Case No. 122/LM/Dec05	*Decision:* Unconditionally approved *Merger rationale:* None given as it was the purchase of a failed firm's assets *Market definition:* Relevant market is private hospital services in the Vaal Triangle or in Kathu. *Reasons for decision:* Although there will be a large increase in the Vaal Triangle from 43% to 71%, the competition loss from the merger small because: 1) medical schemes have countervailing power 2) no evidence that Mediclinic's bargaining power will increase nor that it will be more difficult to conclude preferred provider agreements, 3) no incentive for Mediclinic to be anti-competitive and has made assurances in that vein, and 4) unknown if utilisation and costs will increase as insufficient evidence of an anti-competitive relationship between Mediclinic and specialists. Any loss will be outweighed by the failing firm factor. It is also unlikely that the effect on prices will be any worse under Mediclinic as compared to the other two large hospital groups.
Netcare and Community Hospital Group Case No. 68/LM/Aug06	*Decision:* Unconditionally approved *Merger rationale:* None provided as it was an ex post analysis (the merger was unlawfully implemented in a partial manner before the Commission was notified). Therefore, the structure of the judgment did not allow for reasons for the merger. *Market definition:* Relevant product market is private hospital services and the geographic market was not decided upon (national or regional). *Reasons for decision:* The merger would not lessen competition between specialists since two of five CHG's hospitals were likely never strong competitors for them. No evidence of competition between consumers. Areas with both Netcare and CHG hospitals incorporates other hospitals so CHG hospitals unlikely a competitive constraint before merger. Merger also will not affect funders' reimbursement rates and funding models because first, no effect on Netcare's bargaining power and thus tariffs and secondly, no evidence that merger will give Netcare market power to resist price-reducing innovations. Although there were competition concerns about the healthcare market, these were not merger specific.

Life Healthcare and Amabubesi Hospitals and Bayview Private Hospital Case No. 11/LM/Mar10	*Decision:* Unconditionally approved *Merger rationale:* None given *Market definition:* Relevant market is private hospital services at a national level or local level (Bayview). *Reasons for decision:* The market shares post-merger in both the national and regional markets of no significant concern. Bayview will adopt the prices of LHG, which are lower. No potential adverse effects on ability of other hospitals to compete for doctors' referrals. The transaction will not negate countervailing power of medical aid schemes since they negotiate at a national level.
Life Healthcare and Joint Medical Holdings	*Decision:* Unconditionally approved *Merger rationale:* Tribunal decision document pending *Market definition:* Tribunal decision document pending *Reasons for decision:* Tribunal decision document pending

APPENDIX 2: LIST OF HOSPITAL COMPANY COMPARATORS

Hospital Company	Country of Origin
Acibadem Saglik Hizmetleri	Turkey
Adventist Health System	United States
Aier Eye Hospital Group Co. Ltd.	China
Aikchol Hospital PCL	Thailand
Apollo Hospitals	India
Apollo Hospitals Enterprise Ltd (Parent)	India
AsherXino Corp	United States
Asiri Central Hospitals Plc	Sri Lanka
Asiri Hospital Holdings PLC	Sri Lanka
Asiri Surgical Hospital PLC	Sri Lanka
Athens Medical Centre	Greece
Axon	Greece
Bangkok Chain Hospital Pcl	Thailand
Bangkok Dusit Medical Services PCL	Thailand
Bumrungrad Hospital Pcl	Thailand
Centric Health Corp	Canada
Chennai Meenakshi Multispeciality Hospital	India
Chiang Mai Ram Medical Business PCL	Thailand
Clinica Las Condes S.A.	Chile
Clinica Las Condes S.A. (Parent)	Chile
Clinique Du Rd Pt Chps Elys	France
Community Health Systems Inc	United States
Conjunto Clinico Nacional Conclina	Ecuador
D.T.C.A. Hygeia SA	Greece
Doctors Hospital Health System Limited	BHS
Dom Lekarski SA	Poland
Eifelhoehen Klinik AG	Bahamas
First Choice Healthcare Solutions Inc	United States
Fleury S/A	Brazil
Fortis Healthcare (India) Ltd	India
HCA Holdings Inc	United States
Health Management Assoc.	United States
HealthSouth Corp.	Singapore
Health Management Intl	United States
Healthway Medical Corp. Ltd.	Singapore
IPC The Hospitalist Company Inc	United States
Iasis Healthcare LLC	United States
Iaso SA	Greece

Institut Simo Milosevic A.D. Igalo	Montenegro
Instituto de Diagnostico S.A.	Chile
Instituto de Diagnostico S.A. (Parent)	Chile
Integrated Healthcare Holdings, Inc.	United States
KPJ Healthcare Bhd.	Malaysia
Krungdhon Hospital PCL	Thailand
Latvijas Juras medicinas centrs AS	Latvia
LifeCare Holdings, Inc.	United States
Lifepoint Hospitals Inc	United States
Lotus Eye Care Hospital Limited	India
Ma Kuang Healthcare Holding Ltd.	Taiwan
Mahachai Hospital Pcl	Thailand
MedCath Corp.	United States
Medica Sur SAB de CV	Mexico
Mednax Inc.	United States
Nablus Surgical Center Company PLC	Palestine
Netcare Ltd.	South Africa
Nozha International Hospital	Egypt
Obesity Treatment Corporation	Greece
Prasit Patana Public Company Limited	Thailand
Primary Healthcare Ltd	Australia
Promotora Medica Las Americas SA	Columbia
Pulse Health Limited	Australia
Raffles Medical Group	Singapore
Ramsay Health Care Ltd	Australia
RayClinic AB	Sweden
Samitivej PCL	Thailand
Sejahteraraya Anugrahjaya Tbk PT	India
Select Medical Corporation	United States
Select Medical Holdings Corp	United States
Sikarin PCL	Thailand
Singapore Medical Group Ltd.	Singapore
Sunlink Health Systems Inc	United States
Swissmed Centrum Zdrowia S.A.	Poland
Synopsis Ltd.	Israel
Tenet Healthcare Corp.	United States
Tongji Healthcare Group Inc.	China
US Oncology Holdings, Inc.	United States
United Medical Services Co KSCC	Kuwait
United Surgical Partners	United States
Universal Health Services	United States

Wakefield Health Ltd.	New Zealand
Wattana Karnpaet PCL	Thailand
Zdravilisce Rogaska d.d.	Slovenia