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south africa

Market Inquiry into the Private Healthcare Sector

Profitability Analysis Methodology

September 2015

Glossary

ALSI	All Share Index
CAPM	Capital Asset Pricing Model (refer section 6.2.2)
IRR	Internal rate of return (refer section 3.3)
MEA	Modern Equivalent Asset (refer sections 4.3.3 to 4.3.5)
NPV	Net Present Value (refer section 3.3)
The Firm	A firm providing private healthcare services in South Africa, whose profitability is or may be the subject of assessment.
ROCE	Return on capital employed (refer section 3.2)
WACC	Weighted average cost of capital (refer section 6.1)

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1. Introduction

1.1. Purpose of this document

- 1.1.1. The purpose of this document is to ensure clarity, transparency and a fair process regarding the proposed methodology to be applied by the Health Market Inquiry (“Inquiry”) whenever the Panel decides to assess the profitability of a firm which provides private healthcare services in South Africa (“the Firm”).
- 1.1.2. Profitability analysis can provide useful insight into the competitive features of a market. The Inquiry will conduct profitability analyses to understand both the current levels of profitability earned by the Firm in question as well as how various market changes have affected its profitability over time.
- 1.1.3. This document considers the relevant methodological issues and assesses the appropriate methodology in order to achieve a reliable analysis and conclusion.
- 1.1.4. The proposed methodology in this document is not cast in stone but rather presents an overview of the approaches that are considered appropriate and applicable to the profitability analysis. Interested parties that wish to address the Inquiry on specific issues regarding the proposed methodology may do so by written submission addressed to the Inquiry Director and emailed to submissions@healthinquiry.net. The Panel would appreciate it if any such submission could be made as soon as possible, and in any case not later than 02 November 2015

2. Scope of profitability analysis

2.1. Introduction

2.1.1. The results of a profitability analysis can provide a useful indication of competitive conditions in a market. An efficient firm in a competitive market would generally be able to earn no more than a “normal” rate of profit, being the minimum level of profits required to keep the factors of production in their current use in the long run. In other words, its return on invested capital for a particular business activity would be equal to what is called its “cost of capital” for that activity in the same period. Persistent returns above what should be considered normal for that activity could indicate that competition is not operating effectively and requires further investigation.

2.2. Relevant activities

2.2.1. A profitability analysis on the South African operations of a Firm may be conducted if the Panel considers this necessary for purposes of the Inquiry. The analysis will include all services that the Firm provides as well as all the departments and functions necessary for the functioning of the relevant business.

2.3. Relevant time period

2.3.1. The time frame over which the Inquiry will conduct its profitability analysis should be sufficiently long to detect whether any trends in profitability have been persistent. Therefore the profitability analysis will be performed over the period which the Panel deems to be appropriate having regard to all the relevant factors and evidence relating to the key features of the private healthcare market.

2.3.2. The Panel is aware that firms have different financial year ends and is of the view that this will not undermine the interpretive value of the analysis. Therefore, no adjustments for differing financial years will be made for the purposes of this profitability analysis.

3. Overview of approaches

3.1. Overview

3.1.1. There are various approaches which may be used to assess profitability. The most common approaches are Return on Capital Employed (“ROCE”), Net Present Value (“NPV”) and Internal Rate of Return (“IRR”)

3.2. Return on capital employed

3.2.1. ROCE is a measure of profitability whereby the profit for a period is divided by the net assets relevant to the same period and is expressed as a percentage. Refer to section 4 for further details.

3.2.2. This percentage is benchmarked against the relevant cost of capital. The Weighted Average Cost of Capital (“WACC”) using the Capital Asset Pricing Model is applied in order to arrive at the relevant cost of capital. Refer to Section 6 for further details.

3.2.3. One of the advantages of this approach is that it is calculated on an annual basis and can therefore provide insight into the trend in profitability over a number of years.

3.3. Internal rate of return and Net Present Value

3.3.1. IRR and NPV are widely used techniques for investment appraisal and take into account the inflows and outflows of an activity or project over time.

3.3.2. The NPV of an activity or project is the sum of all the discounted cash flows associated with that activity or project, less the initial investment outflow. The IRR is the discount rate that would give an NPV of zero.

3.3.3. The IRR has an advantage over the NPV in a profitability analysis as it is expressed as a percentage which can be compared with the WACC (the latter providing an appropriate indicator of “normal” profit for the activity concerned).

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- 3.3.4. When calculating the IRR of a going concern business rather than a project with a finite term, the fair value of the net assets at the beginning of the period of assessment is deducted (similar to the initial investment outflow) and the fair value of the net assets at the end of the period of assessment is added on at the end of the period. This approach is commonly referred to as the “truncated IRR”. Refer to section 5 for further details.

3.4. Conclusion

- 3.4.1. The most suitable approaches for this profitability analysis for the Inquiry are the ROCE and truncated IRR.

4. Return on capital employed

4.1. Introduction

4.1.1. The ROCE will be determined using pre-tax operational profits and operational capital employed for each financial period. The ROCE will then be compared to the pre-tax WACC for that period.

4.1.2. The general principle is that all revenues, costs, assets and liabilities necessarily arising from the operation of the business in South Africa should be included. Assets are defined as rights or other access to future economic benefits controlled by an entity as a result of past transactions or events. Liabilities are obligations on an entity to transfer economic benefits as a result of past transactions or events.

4.1.3. The following items should be excluded:

- Items of a financing nature including both income statement and balance sheet items, for example, interest, short term and long term interest-bearing borrowings, inter-company loans, cash balances and overdrafts;
- Taxation including both corporate and deferred taxation;
- Inter-company payments that do not reflect the provision of goods or services but that serve to transfer funds between entities.

4.2. Consolidated information

4.2.1. The basis of the Inquiry's profitability analysis is the economic substance of the relevant activities undertaken by the Firm in South Africa.

4.2.2. The Inquiry understands that in some cases these activities are divided between a number of separate legal entities creating a range of inter-company transactions. The Inquiry will assess the profitability of these activities on a consolidated basis.

4.3. Tangible assets

4.3.1. Tangible assets are the physical assets of a firm and include land, buildings and equipment.

Approach to valuation

4.3.2. The approach to valuing assets should reflect their current value to the business, which is the loss the firm would suffer if it were deprived of the asset involved. That measure will depend on the circumstances involved.

4.3.3. These measures include replacement cost (entry value), value in use (discounted present value of the cash flows expected from continuing use and ultimate sale by the present owner) and net realisable value (exit value).

4.3.4. The Panel considers the most appropriate measure of tangible assets for the purposes of the profitability analysis to be the replacement cost of a modern equivalent asset (“MEA”) allowing for the asset’s remaining useful life.

4.3.5. This valuation should be based on the most efficient technology at the time and assumes that assets are optimally configured.

4.3.6. In order to calculate the fair value of tangible assets on an MEA basis, it is necessary to identify what it would cost to replace the assets using modern construction techniques and modern technology equipment. Furthermore, this valuation methodology will depreciate the MEA values to account for the shortened economically useful life.

4.3.7. For the purposes of the ROCE approach, asset values will be required at each financial year end of the period of analysis. In addition to acquisitions, depreciation and disposals of assets, movements from year to year would also be comprised of movements in the fair value of the assets.

4.3.8. In order to arrive at replacement costs at each financial year end, price indexation may be applied using an index appropriate to the type of asset being revalued.

Sources of information for revaluation

- 4.3.9. In valuing the tangible assets on an MEA basis, regard will be had to all available information including, but not limited to, insurance reports, recent build costs and internal studies.
- 4.3.10. The Inquiry will use the asset values the parties submit if these values are based on the above principles and sources of information and if the Inquiry deems them to be sufficiently credible.
- 4.3.11. If the asset values are not sufficiently credible, then the Inquiry will publish separate guidance on the methodology that will be followed in this regard.

Leasehold land and buildings

- 4.3.12. Where properties are leased, the accounting treatment will vary according to the nature of the lease i.e. whether the leased asset is capitalised and depreciated over time or whether the lease payments are treated as an expense in the income statement.
- 4.3.13. For the purposes of this profitability analysis, we will follow the accounting treatment with regard to which properties are included in the asset base of the firm and which properties are excluded as their value is reflected in the rental payments made.

4.4. Intangible assets

- 4.4.1. Intangible assets are assets that the firm has acquired or developed with the expectation that these assets will generate economic benefits for the firm over time but they are not physical assets. Examples of intangible assets include software systems, trademarks, intellectual property, and licences.
- 4.4.2. Should the Firm wish to include intangible assets in the calculation of ROCE, it may make submissions to the Panel accordingly. The Panel will apply the following criteria to assess whether to include such intangible assets in the ROCE:
- It must comprise a cost which has been incurred primarily to obtain economic benefits in future;

- This cost must be additional to costs necessarily incurred at the time in running the business; and
- It must be identifiable as creating such an asset separate from any arising from the general running of the business.

4.4.3. The valuation of qualifying intangible assets must be based on the costs incurred to develop or acquire the intangible asset. Valuation methodologies relying on the income earned from the intangible assets are not considered appropriate for the purposes of this profitability analysis.

4.4.4. Purchased goodwill will not be included in the calculation of ROCE. The reason is that purchased goodwill may reflect the capitalisation of future super profits. Therefore, to allow purchased goodwill to be included within the capital employed would introduce circularity in this profitability analysis.

4.5. Working capital

4.5.1. The average opening and closing financial year end balances will be included in the calculation of capital employed. The carrying values per the annual financial statements will be used.

4.5.2. The Inquiry will use the unadjusted year end balances unless the Firm can demonstrate that seasonality, to the extent that it exists at the net working capital level, would have a material effect on the ROCE.

4.6. Operating profits

4.6.1. The starting point for the calculation of operating profits will be the Earnings Before Interest, Tax, Depreciation and Amortisation (“EBITDA”) for accounting purposes. Certain adjustments will need to be made in order to calculate the operating profits for use in the calculation of ROCE.

4.6.2. These adjustments are as follows:

- Depreciation of assets based on the revalued amounts (using the MEA methodology);
- The profit or loss resulting from the change in value to the business of its assets (after allowing for disposals and acquisitions);

- Amortisation of allowed intangible assets.

4.6.3. Where the Firm has operations outside of South Africa, there may be transactions between the South African entities and other non-South African entities within the group. An example of this would be recharges for central or common costs. The Firm should provide details to the Inquiry of the approach taken to allocate common costs and why the chosen approach is considered appropriate and reasonable.

5. Truncated Internal Rate of Return

5.1. Introduction

- 5.1.1. As set out in section 3.3, the Truncated IRR is applied to arrive at the discount rate achieved over a period of assessment. This discount rate is compared with the WACC.
- 5.1.2. The key information required for the Truncated IRR methodology is:
- Cash flow data over the period of analysis;
 - Fair value of capital employed at the start and end of the period of analysis.
- 5.1.3. The information required for the Truncated IRR approach will not differ significantly from the information required for the ROCE approach. Therefore, in the absence of guidance set out in this section, please refer to section 4 regarding the ROCE approach.

5.2. Cash flows

- 5.2.1. The cash flows over the period of analysis will be calculated as follows:
- The EBITDA for each financial year will be the starting point;
 - Cash flows from the acquisition and disposal of tangible assets are deducted and added, respectively in the period in which they were incurred;
 - Cash flows from the movement in working capital are adjusted for.
- 5.2.2. Common costs should be treated as set out in section 4.6.3.

5.3. Fair value of capital employed

- 5.3.1. The fair value of capital employed at the beginning of the period of assessment will be deducted as a period 0 (period zero) cash outflow. The fair value of capital employed at the end of the period of assessment will be

added as a cash inflow at the end of the last financial year in the period of assessment.

5.3.2. Capital employed will be comprised of:

- Tangible assets (see section 4.3);
- Intangible assets (see section 4.4); and
- Working capital (see section 4.5).

5.3.3. As set out in section 4.1.2, items of a financing nature, taxation and inter-company payments that do not reflect the provision of goods and services should be excluded.

6. Weighted average cost of capital

6.1. Introduction

- 6.1.1. A competitive market would be expected to generate significant variations in profit levels between firms and over time, but with the overall tendency towards levels commensurate with the cost of capital of the firms involved.
- 6.1.2. The cost of capital is the minimum expected return that investors in a project would accept over the period of that investment. In other words, it provides an appropriate measure of a competitive “normal” profit for the business activity concerned. It is an opportunity cost and can be seen as the risk-adjusted yield on capital employed in the next best alternative use.
- 6.1.3. A firm’s cost of capital is derived from the cost of equity and the after tax cost of debt in proportions to the long-term target capital structure of the firm, resulting in a Weighted Average Cost of Capital (“WACC”). The formula for WACC is as follows:

$$WACC = K_e \times (E/(D+E)) + K_d \times (D/(D+E))$$

where

K_e is the cost of equity

K_d is the cost of debt

E is the market value of equity

D is the market value of debt

- 6.1.4. The WACC will be calculated on a nominal pre-tax basis at each financial year end of the Firm over the period covered by the profitability analysis.

6.2. Cost of equity

- 6.2.1. The Inquiry will apply the CAPM when considering the cost of equity.
- 6.2.2. The CAPM is expressed as follows:

$$K_e = R_f + \beta (R_m - R_f)$$

where

R_f is the risk free rate

R_m is the return on the market

$(R_m - R_f)$ is the market risk premium

β is the risk index or beta co-efficient

Risk free rate

6.2.3. The risk free rate will be based on the prevailing spot return on a long-term South African Government Bond at each measurement date. In selecting the appropriate Government Bond, regard will be had to the size and liquidity of the bond at each measurement date.

Market risk premium

6.2.4. A market risk premium is the premium over and above the risk free rate appropriate for investing in an average listed company.

6.2.5. This premium is based on empirical studies, which compare the return on the All Share Index (“ALSI”) to the yield on long-term government bonds.

Beta

6.2.6. The beta co-efficient is a measure of the volatility of a company’s share price relative to the overall stock market. A higher beta co-efficient indicates a more volatile share price and therefore a perceived higher investment risk.

6.2.7. The beta co-efficient of a company is a function of its business risk index (determined by operating risk, strategic risk, asset management, size and diversity) and its financial risk index (determined by the level of gearing in a company).

6.2.8. For the purpose of this profitability analysis, the beta co-efficient of listed comparable companies will be derived from the comparable companies' historic share prices movement relative to the market. Betas for comparable companies both in South Africa and other countries will be used.

6.2.9. Betas will be ungeared to remove the effect of the comparable companies' gearing and re-gearred based on the gearing assumed (see section 6.4).

6.2.10. Debt betas are assumed to be zero.

Taxation

6.2.11. As noted in section 6.1.4, the Inquiry will calculate the WACC on a pre-tax basis. As the cost of equity is inherently a post-tax return, an adjustment is required to convert the cost of equity arrived at above to a pre-tax cost of equity.

6.2.12. In this regard, the following formula will be applied:

$$K_{e \text{ pre-tax}} = K_{e \text{ post-tax}} / (1 - t)$$

where

$K_{e \text{ post-tax}}$ is the post-tax cost of equity arrived at above

t is the prevailing corporate tax rate in South Africa over the period

6.3. Cost of debt

6.3.1. In order to estimate the cost of debt, the Inquiry will consider corporate bond yields over the period of analysis, credit ratings and actual interest rates that the Firm paid. However, it is important to maintain consistency between the cost of debt and the gearing assumed. Therefore, it may be necessary to make adjustments to the cost of debt to ensure that the cost of debt assumed remains consistent with the gearing assumption.

6.3.2. The cost of debt will be included in the WACC on a pre-tax basis.

6.4. Gearing

- 6.4.1. The Panel will estimate a “typical” capital structure for the Firm and apply it in the WACC calculation. The capital structure assumed will not be varied from period to period. The beta (see section 6.2.6) will be re-gearing using this assumed capital structure.