

A VALUE ASSESSMENT OF MERGERS AND ACQUISITIONS IN THE SOUTH AFRICAN MINING INDUSTRY

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UNIVERSITY OF PRETORIA



DECEMBER 2010

I hereby declare that this dissertation is my own unaided work. It is being submitted for the degree MEng (Mining Engineering) at the University of Pretoria, Pretoria. It has not been submitted before for any degree or examination at any other university. This document represents my own opinion and interpretation of information received from research and interviews.

It should be noted that one of the case studies analysed in this dissertation was the merger of the non-iron ore assets of Kumba Iron Ore and Eyesizwe Coal to form Exxaro Resources Limited.

It is recorded here that my supervisor, Prof. Con Fauconnier, was the CEO of Kumba Resources prior to the merger and subsequently became the first CEO of Exxaro Resources until his retirement from office in 2006. Since then, I understand that he has had no formal relationship with Exxaro.

It is declared that no specific views were solicited from Prof. Fauconnier regarding the success, or otherwise, of the Kumba/Eyesizwe deal and that all information used was obtained from press releases and annual reports. Mr Siphon Nkosi was CEO of Eyesizwe prior to the deal and is currently CEO of Exxaro Resources Limited. He participated in an interview on the broad subject matter of mergers and acquisitions. Likewise, it is recorded that all industry leaders who participated in the interviews, who have been acknowledged, were consulted mainly to solicit their views on value determination. The questionnaire used is attached as an appendix to this thesis and the discussions were confined to the questionnaire. By the nature of this study, it was important to gain insight from their intimate involvement and experience in mergers and acquisitions.

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ABSTRACT

A VALUE ASSESSMENT OF MERGERS AND ACQUISITIONS IN THE SOUTH AFRICAN MINING INDUSTRY

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The global mining industry has been experiencing an unprecedented period of change, driven by merger and acquisition activities which ran at record highs at all levels of the sector (Goldsmith, 2008). Metals became the new green on Wall Street, as mining displaced financial services to become the biggest source of mergers and acquisitions (Bloomberg, 12 June 2008).

This was driven mainly by growing commodity demand from Asia which led to record commodity prices. Mining companies therefore positioned themselves to gain bigger economies of scale and diversification. The enactment of the Mineral and Petroleum Resources Development (MPRDA) Act, No. 28 of 2002, in South Africa also contributed to this trend. Mining mergers and acquisitions in South Africa have increased considerably, with all-time-high annual total deal values of about US\$5.3 billion and US\$5.7 billion in 2003 and 2006 respectively, according to deal information obtained from Dealogic.

Despite this growing trend, various studies conducted indicate mixed outcomes as to whether mergers and acquisitions do create value. The bases for assessing value creation in mergers and acquisitions, however, often tend to differ and therefore

require a comprehensive and holistic approach. This dissertation examines some of the key indicators that can be used to assess value creation in mergers and acquisitions holistically and comprehensively. Subsequently, a suitable and comprehensive value assessment model is developed and applied to some of the key mergers and acquisitions that occurred in the South African mining industry between 2003 and 2008.

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- 1 The database of information used on the mergers and acquisitions that occurred in the South African mining industry between 2003 and 2008 was obtained from Dealogic.
- 2 McGregor BFA provided all the information on financial parameters, historical share price performance and market capitalisation for the companies discussed in this dissertation and on industry benchmarks.
- 3 The following persons are gratefully acknowledged for their assistance during the course of the study by participating in interviews:
 - a. Mr Sipho Nkosi (CEO, Exxaro Resources)
 - b. Mr Bernard Swanepoel (Founder, To The Point Consulting)
 - c. Mr Philip Kotze (CEO, Anooraq Resources)
 - d. Mr Peter Hayward-Butt (Co-Head, Investment Banking, RMB)
 - e. Mr Fani Titi (formerly of the TISO group and experienced in BEE deals)
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LIST OF ABBREVIATIONS

AAC	Anglo American Corporation
BBBEE	Broad Based Black Economic Empowerment
BEE	Black Economic Empowerment
CONOPs	Continuous Operations
D/E	Debt/Equity Ratio
DCF	Discounted Cash Flow
DME	Department of Minerals and Energy
DPS	Dividend Per Share
DTI	Department of Trade and Industry
DVA	Deal Value Add
EBIT	Earnings Before Interest and Tax
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation
EPS	Earnings Per Share
ESOP	Employee Share Ownership Scheme
GDP	Gross Domestic Product
HDSA	Historically Disadvantaged South Africans
IFRS	International Financial Reporting Standards
JSE	JSE Securities Exchange Limited
KIO	Kumba Iron Ore
MPRDA	Minerals and Petroleum Resources Development Act
MVA	Market Value Add
NPV	Net Present Value
NSJME	Nedcor Securities Junior Mining and Exploration (Index)
P/E	Price Earnings Ratio
POP	Proportion Overpaid
ROA	Return on Assets
ROE	Return on Equity
ROIC	Return on Invested Capital
STC	Secondary Tax on Companies
TFCF	Total Fixed Capital Formation

TRS
yoy

Total Return to Shareholders
year-on-year



CHAPTER 1 INTRODUCTION

1.1 INTRODUCTION TO MERGERS AND ACQUISITIONS

Mergers and acquisitions are one of the ways by which firms attempt to create value. The reasons for such activity often include, among others, expansion into new markets, acquisition of new technology, achieving economies of scale, reduction of duplicate costs and reduction of competition (DePamphilis, 2008).

Most organisations will in one way or another experience merger and acquisition activity, as either acquirers, targets or partners. Even if an organisation chooses to stay out of mergers and acquisitions, the odds are that its competitors may use them for strategic or financial advantage, which may have implied consequences for that organisation in the long run (Bruner, 2004).

However, it is often very difficult to determine whether these mergers and acquisitions did in fact create value. One of the underlying reasons for this difficulty is the determination of what key indicators should be used to assess and measure value creation holistically, though they will vary for different situations.

This dissertation examines some of the key indicators that can be used in assessing value in mining mergers and acquisitions, and applies them to some of the key mergers and acquisitions that occurred in the South African mining industry between 2003 and 2008. This provides a basis for reviewing some of the past performances and for formulating lessons for the future.

1.2 PROJECT BACKGROUND

Mergers and acquisitions are occurring at increasing rates in the mining industry. The enactment of Mineral and Petroleum Resources Development Act, No. 28 of 2002, in South Africa has also given rise to many junior mining companies. Many of these mining juniors have been able to acquire mineral resources, and others have purchased a stake in existing companies. Consolidation, unbundling and acquisitions are also evident among existing companies.

The challenges always lie in how to identify and implement acquisitions, mergers or partnerships that will create value. This requires, among others, an understanding of the key indicators that can be used in value assessment, and their application in assessing value in mergers and acquisitions.

1.3 PROBLEM STATEMENT

Mining mergers and acquisitions are often associated with huge financial deals. The global value of mergers and acquisitions in the mining sector was US\$134 billion in 2006, US\$ 159 billion in 2007 and US\$ 153 billion in 2008, according to the 2008 *Annual Review of Mining Deals* report by PricewaterhouseCoopers (Goldsmith, 2008).

Mergers and acquisitions in South Africa amounted to R514 billion in 2007, and R284 billion in 2006. Total Black Economic Empowerment (BEE) transactions amounted to R96 billion in 2007 and R56 billion in 2006. In 2006, mining mergers and acquisitions made the biggest contribution to empowerment deals in South Africa (*Business Day*, 13 May 2008).

Mining mergers and acquisitions in South Africa have increased considerably, with all-time-high annual total deal values of about US\$5.3 billion and US\$5.7 billion in 2003 and 2006 respectively, according to deal information obtained from Dealogic.

Despite the huge financial investments involved, various studies have revealed mixed outcomes as to whether or not mergers and acquisitions do indeed create value. For instance, Dobbs, Goedhart and Suonio (2006) reported on two waves of mergers and acquisitions activities. Their study indicated that value was destroyed in the first wave which occurred between 1995 and 2000, but that the period between 2003 and 2006, which constituted the second wave, did create value. Post-merger and acquisition studies conducted by several authors, as reported by DePamphilis (2008), indicated that the majority of mergers and acquisitions underperform the industry average. There are, however, various interpretations as to what constitutes value and how and when it is measured.

The South African mining environment has not been an exception to this rising trend in merger and acquisition activities. However, not much work has been done or published on the outcome of these deals in terms of value creation. It also became evident, from interviews held with various industry leaders as part of this dissertation, that post-merger value assessment is not usually done by companies that participate in some form of merger or acquisition activity. This poses a serious threat to the sustainability of the South African mining industry as a whole. The recent financial crisis experienced by some junior mining companies that did participate in acquisitions in the South African mining industry in response to the requirements of the Mining Charter has impacted on the sustainability of some of the BEE deals.

The following factors illustrate the importance and contribution of South African mining to the local economy and globally:

- (a) South Africa has the world's largest resources of platinum group metals (87.7%), manganese (80%), chromium (72.4%) and gold (40%).
- (b) It also accounts for over 40% of the global production of ferrochromium, platinum group metals and vanadium.
- (c) In 2007, mining contributed 7.7% of South Africa's Gross Domestic Product, amounting to R135.6 billion, and 8.9% of the Total Fixed Capital Formation. Mining's contribution to South Africa's exports was R536 billion in 2007.
- (d) The mining industry employed about half a million (0.5 million) people in 2007, which represented 2.9% of total employment in this country.
- (e) Mining also plays a very active role in the socio-economic development of the areas in which mining companies operate.
- (f) Mining offers significant opportunities for the integration and active participation of historically disadvantaged black South Africans (HDBSAs) in terms of ownership to realise the dream of a non-racial South Africa.
- (g) Several countries, such as China, Australia and India, and various countries in Europe, rely on South Africa for the supply of raw products such as iron ore, manganese and coal, and beneficiated products such as gold, ferrochrome and ferromanganese.

The above statistics were obtained from the Department of Minerals and Energy's (currently the Department of Mineral Resources) 2007/2008 report on South Africa's mineral industry.

If mining companies in South Africa are to remain significant and competitive, mergers and acquisitions are bound to occur in order to comply with legislation, create benefits through financial and operational synergy, diversification, etc., to mention just a few reasons. For the industry to achieve these business objectives, it is very critical that the failure rates of mergers and acquisitions should be minimised to prevent a ripple effect on the economic and social dimensions of South Africa.

One of the key steps in achieving this objective will be to create a comprehensive and holistic framework for value assessment which can act as a guide in mergers and acquisitions. This will then assist in determining the success rate of the past and offer useful lessons for the future.

It therefore becomes a business imperative to investigate some of the key indicators for a holistic assessment of value creation in mergers and acquisitions and to give guidelines for their correct application in each situation.

1.4 OBJECTIVES

The objectives of this dissertation are to:

- (a) understand mergers and acquisitions in general and some of the key motives that drive these corporate actions
- (b) understand the role of mining in the socio-economic development of South Africa and hence the impact of mergers and acquisitions
- (c) understand mergers and acquisitions that have occurred in the global mining industry at large, and more specifically in the South African mining industry
- (d) understand some of key indicators that can be used to make a holistic and comprehensive assessment of value in mergers and acquisitions

- (e) develop a framework or guideline for value assessment of mergers and acquisitions for the South African mining industry that is relevant and comprehensive
- (f) apply this framework or guideline to the South African mining industry in the form of a value assessment of some of the key mergers and acquisitions that occurred in the South African mining industry from 2003 to 2008
- (g) outline and elaborate on some of the key findings and find out how assistance can be given in future decision making to improve the success rate of mining mergers and acquisitions, and also provide guidance for new entrants such as BEE companies

1.5 SCOPE OF THE STUDY

This study considers all global and mining industry mergers and acquisitions and trends, including those in the South African mining industry. However, the value assessment of mergers and acquisitions is limited to the South African mining industry. The study focuses only on some of the key mining mergers and acquisitions that occurred in South Africa between 2003 and 2008, due to the availability of reliable data. There was also a dramatic increase in mining mergers and acquisitions during the period from 2003 to 2007.

1.6 METHODOLOGY

First, a literature review of mergers and acquisitions was undertaken to gain an understanding of the rationale and motives behind them. Furthermore, an understanding of some of the key quantitative and qualitative indicators that are used for a holistic assessment of the value created in mining mergers and acquisitions had to be acquired.

Thereafter the South Africa mining industry and its contribution to the socio-economic framework of South Africa is discussed, as well as the mergers and acquisitions that occurred in the South African mining industry between 2003 and 2008.

A framework for value assessment of mergers and acquisitions, suitable for the South African mining industry, was then developed, using the findings from the literature review, personal input and contributions from industry key stakeholders (obtained through personal interviews) who have in-depth experience of mining mergers and acquisitions in South Africa.

This framework was then used to make value assessments of some of the key mining mergers and acquisitions that occurred in South Africa between 2003 and 2008. The outcome of these assessments provided a platform for a constructive discussion, based on relevant information, on whether value has been created or not and why. Finally, the dissertation examines the effectiveness of the framework used and indicates areas for improvement.

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CHAPTER 2 LITERATURE SURVEY

2.1 INTRODUCTION

In business, one of the perceived routes for value creation is through growth. Hence it is believed that companies on a growth path will take away market share from competitors, create economic profits and provide returns to shareholders. Those that do not grow tend to stagnate, and lose customers and market share. Most companies have exhausted cost-cutting and operational efficiencies as means to increase profitability and are therefore looking for growth as a primary enabler of shareholder return (Sherman & Hart, 2006).

Despite the fact that not all mergers and acquisitions have been successful, according to Moeller and Brady (2007) most companies that have grown into global giants have used mergers and acquisitions as part of their growth strategy. The questions therefore remain: Can a company become a large global player without making acquisitions and will organic growth alone be sufficient for an organisation to become a leading global player?

Mergers and acquisitions therefore have, and will continue to play, a vital role in global organisations, despite the fact that not all of them have been successful.

2.2 MERGERS AND ACQUISITIONS DEFINED

The term 'mergers and acquisitions' refers to the aspect of corporate strategy, corporate finance and management dealing with the buying, selling and combining of different companies that can aid, finance or help a growing company in a given industry to grow rapidly without having to create another business entity (Anon, 2008).

A merger is the combination of two or more companies into one larger company. Such actions are commonly voluntary and involve stock swapping and/or cash payment to the target. Stock swapping is often used as it allows the shareholders of the two companies to share the risk involved in the deal. A merger usually results in a new company name, often the combination of both original companies into a new brand.

Mergers can be classified as:

- *Horizontal*, where the two companies produce similar products in same industry
- *Vertical*, where each company works at a different stage in the production of the same goods
- *Conglomerate*, where the two companies operate in different industries
- *Congeneric*, where both companies are in the same general industry but have no mutual buyer/customer or supplier relationships

An acquisition, also known as a takeover, is the buying of one company (the target) by another. An acquisition may be friendly or hostile. In the former case, the companies co-operate in negotiations and in the latter case the target may be unwilling to be bought or the target company's board has no prior knowledge of the offer.

Acquisition usually refers to the purchase of a smaller company by a larger one. Sometimes, however, a smaller company will acquire control of a larger company through equity ownership. This is known as a 'reverse takeover'.

2.3 TYPES OF ACQUISITION

There are two types of acquisition, as follows:

- The buyer buys the shares and therefore control of the target company. Ownership control of the company in turn conveys effective control over the assets of the company, but since the company is acquired intact as a going business, it also carries the liabilities of the target company

or

- The buyer buys the assets of the target company. The cash received from the sell-off is paid to the shareholders by dividends or through liquidation. This type of transaction, in which the buyer buys out the entire assets,

leaves the target company as an empty shell. The buyer then selects the assets it wants and leaves out the assets and liabilities it does not want.

2.4 THE ROLE OF HOLDING COMPANIES IN MERGERS AND ACQUISITIONS

The holding company is the legal entity having a controlling interest in one or more companies resulting from mergers and acquisition activity. Effective control is generally achieved by acquiring less than 100% but usually more than 50%. Effective control can sometimes be achieved by owning as little as 20% in cases where target company ownership is highly fragmented, with fewer shareholders owning larger blocks of stock.

The holding company's structure can sometimes create significant management challenges where it does not own 100% of a subsidiary company, or where a significant number of minority shareholders do not agree to the strategic direction of the company. Furthermore, in highly diversified holding companies, managers may have difficulty in making optimal investment decisions because of their limited understanding of the different competitive dynamics of each business entity.

The holding company's structure can in certain jurisdictions also create significant tax problems for its shareholders. Subsidiaries of holding companies pay taxes on their operating profits. The holding company then pays taxes on the dividends it receives from its subsidiaries. Finally, holding company shareholders pay taxes on the dividends they receive from the holding company. This is equivalent to triple taxation of the subsidiary's operating earnings. The current tax legislation in South Africa, however, allows application for exemption from secondary tax on companies (STC) for the dividends flowing from the subsidiary to the holding company, and STC is paid only when the dividend is declared and paid to shareholders.

2.5 MOTIVATIONS FOR MERGERS AND ACQUISITIONS

There are numerous reasons why mergers and acquisitions take place. Some of the common ones, according to DePamphilis (2008), Moeller and Brady (2007), Bruner (2004) and Pautler (2001), are:

- Synergy (operational and financial)
- Diversification
- Strategic re-alignment
- Market power
- Hubris and managerialism
- Buying undervalued assets (Q-ratio)
- Tax considerations
- Legal and regulatory framework
- Misevaluation
- Mismanagement (agency problems)
- Stakeholder expropriation

2.5.1 Synergy

This occurs when the combination of two or more businesses can create more shareholder value than if they were operated separately, through improvement in operating efficiency. Operating synergy consists of economies of scale and economies of scope. Economies of scale refer to the spreading of fixed costs over increasing production levels. Economies of scope refer to the use of a specific set of skills or an asset currently employed in producing a specific product or service to produce related products or services. These synergies are most often found when it is cheaper to combine two or more product lines in one firm than to produce them in separate firms.

Financial synergy refers to the impact of mergers and acquisitions on the cost of capital, which is the minimum return required by investors and lenders. Combining a firm with excess cash flows with one whose internally generated cash flow is insufficient to fund its investment of opportunities may result in a lower cost of borrowing.

A firm in a mature industry whose growth is slowing may produce cash flows in excess of available investment opportunities. Another firm in a high-growth industry may have more investment opportunities than cash to fund them. Combining these two firms might result in a lower cost of capital for the merged firms, with the ability to pursue growth opportunities.

2.5.2 Diversification

This refers to a strategy of making mergers and acquisitions outside a company's core or primary business, as well as geographically. A mining company whose core business is the production of gold may choose to diversify into other commodities such as coal, iron ore, platinum, etc. in order to pursue better growth opportunities but also to spread its risk over various commodity cycles.

Geographic diversification also presents the opportunity of becoming a significant global player in terms of access to resources and exposure to more favourable political and labour climates. The opposite is also true in countries that may have huge mining and mineral resources with a very unstable political climate, where very high risk is associated with security of tenure. Hence, even though diversification may generally present a platform for spreading business risk, it may also create significant management challenges, depending on the nature and degree of diversification.

2.5.3 Strategic re-alignment

This refers to the use of mergers and acquisitions as ways of adjusting rapidly to changes in the external environment. These changes can come from different sources, including technological, political, legal/regulatory, social, economic, etc.

For instance, as the pace of technological change accelerates, mergers and acquisitions are sometimes viewed as a way of rapidly exploiting new products and industries made possible by the emergence of new technologies. Large, more bureaucratic firms are often unable to exhibit the creativity and speed that smaller, more nimble and niche players display. In an environment where engineering talents are scarce with product life-cycles becoming shorter, firms often do not have the time and resources to innovate. Mergers and acquisitions may therefore become a fast and sometimes less expensive way to acquire new technology in current product offerings or to enter new markets.

2.5.4 Market power

This refers to the increase in a firm's size, which subsequently leads to an increase in market share, to improve its ability to set prices above competitive levels. It also refers to the reduction of competition to allow a company to increase its chances of survival. Mergers and acquisitions with such objectives are, however, subject to anti-competition and anti-collusion rules and legislation, and as such should be pursued with sound legal judgement and understanding of the existing legal framework.

With regard to cross-border mergers and acquisitions, they could become very complicated when the legal framework in one country differs significantly from that of the other. There are also instances where it will be required to adhere to competition regulations in both the country where the deal takes place and an outside country, if other affected parties, for example suppliers or buyers of the companies involved, operate in a different country.

2.5.5 Hubris and managerialism

Managers sometimes believe that their own evaluation of a target firm is superior to the market's valuation. This can often lead to overpayment due to ego-driven decision making. The desire not to lose in a hostile takeover can, for instance, result in a bidding war that results in a purchase price far in excess of the actual economic value due to the personal self-interests of managers. This is sometimes referred to as 'the winner's curse'.

There are also instances where management believes that increasing the size of the company is an achievement that should result in an increase in power/position and remuneration.

2.5.6 Buying undervalued assets (the q-ratio)

The q-ratio is the ratio of the market value of a firm to the replacement cost of its assets. Firms interested in expansion have the choice of investing in a new plant and equipment or obtaining the assets by acquiring a company whose market value is less than the replacement cost of its assets (i.e. $q\text{-ratio} < 1$).

This theory was useful in explaining mergers and acquisitions during the 1970s when high inflation and interest rates depressed stock markets well below the book value of most firms. High inflation also caused the replacement cost of assets to be much higher than the book value. Similarly in 2006, the flurry of mergers and acquisitions in steel and copper companies reflected the belief that the stock price of the target firms did not fully reflect the market value of those assets.

The current global recession and credit crunch has also created a similar environment where the market value of most companies is well below their book value because of negative and pessimistic expectations of the future.

2.5.7 Mismanagement (agency problems)

This situation arises when there is a difference between the interests of incumbent managers and the firm's shareholders. This happens when management owns a small fraction of the outstanding shares of the firm. Management is more inclined towards maintaining job security and a lavish lifestyle than towards maximising shareholder value. In instances where the shares of a company are widely held, the cost of mismanagement is spread across a large number of shareholders. Since each shareholder then bears only a small portion of the cost, this mismanagement may be tolerated over a long period.

Mergers and acquisitions therefore take place to correct situations where there is a conflict of interest between managers and shareholders. Low stock prices may

put pressure on managers to take action to raise the share price or become the target of acquirers who perceive the stock to be undervalued. Mehran and Peristiani (2006), as reported by DePamphillis (2008), found out that agency problems are also important in management-initiated buy-outs, particularly when managers and shareholders disagree over how excess cash flow should be used.

2.5.8 Tax considerations

There are two important issues in discussing the role of taxes as a motive for mergers and acquisitions. First, tax benefits, such as loss carried forward and investment tax credits, can be used to offset the combined companies' taxable income. An additional tax shelter is created if the acquisition is recorded under the purchase method of accounting. This requires the book value of the acquired assets to be re-valued to the current market value. The resulting depreciation of these generally higher asset values also reduces the amount of future taxable income generated by the combined companies.

Secondly, the taxable nature of the transaction will often play a more important role in determining whether the merger takes place than any tax benefits that accrue to the acquiring company. The seller may require a price that will differ depending on whether or not there are tax benefits to be gained. Where there are no tax benefits in terms of capital gains from the transaction, the seller may request a higher price to compensate for tax payable from the transaction.

2.5.9 Misvaluation

This concept has traditionally been overshadowed by the presumption that markets are efficient. Efficiency implies that a target's share price will reflect accurately its true economic value. Despite the generally accepted norm that markets are efficient, evidence exists that assets may temporarily not reflect their underlying economic value. The Internet bubble in the 1990s is an example of market inefficiencies. Shleifer and Vishny (2003), as reported by DePamphillis (2008), suggest that irrational changes in investors' sentiments will sometimes affect takeover motives.

It is therefore possible that acquirers may periodically profit by buying undervalued targets for cash at a price below their actual value or by using equity. Similarly, there is also a tendency for overvalued firms to use their overvalued stock to make acquisitions more cheaply than what the case would be if they were correctly valued.

2.5.10 Legal and regulatory framework

For the purpose of this study and considering the South African mining environment, discussion will focus on regulatory issues with regard to ownership. Leon (2008) reports that state influence and participation in ownership will continue to impact on mining deals in Africa in order to secure the right to operate. The most notable such deals are in Botswana, South Africa, Zimbabwe and Zambia.

McKenzie (2008) reports on the regulatory issues affecting mining investment in China, which requires a lot of state control in mineral exploration and mining. Russia, too, is no exception to state control and ownership of mineral resources and mining activities.

Mining companies may therefore have to embark on some form of mergers and acquisitions in order to meet state regulatory approval in the countries in which they operate.

2.5.11 Stakeholder expropriation

Pautler (2001) suggests a number of other motives for mergers and acquisitions in which some shareholders may gain at the expense of other stakeholders. For example, some target firms may seek acquirers to escape financial problems or to break unfavourable labour contracts. There are also instances where other firms may seek leveraged purchases of their targets to increase the surviving firm's risk-return profile at the expense of existing debt holders.

It is, however, evident that not all mergers and acquisitions will fully benefit all stakeholders and this is due mainly due to the nature of business survival as opposed to deliberate intent. It is not uncommon for trade unions to oppose

mergers and acquisitions if they believe these could lead to the reduction of jobs due to operating synergies for example. There are also regulatory and approval frameworks that look into issues relating to tax structure and its implications for the state's tax proceeds to ensure that the state is not exploited. However, one cannot rule out the fact that some merger and acquisition motives could have the deliberate intention to expropriate other stakeholders.

2.6 THE MERGER AND ACQUISITION PROCESS

Mergers and acquisitions are never events, but a process that takes on a life-span of its own depending on the degree and success of post-merger integration. The success of the process therefore depends on focusing on all the key essential steps and managing them appropriately.

The key steps in the merger and acquisition process, according to DePamphilis (2008), include the following phases:

- Phase 1: Develop a strategic plan (Business Plan)
- Phase 2: Develop an acquisition plan that supports the business plan (Acquisition Plan)
- Phase 3: Actively search for acquisition candidates (Search)
- Phase 4: Screen and prioritise potential candidates (Screen)
- Phase 5: Initiate contact with the target (First Contact)
- Phase 6: Refine the valuation, structure the deal, perform due diligence and develop a financing plan (Negotiation)
- Phase 7: Develop an integration plan (Integration Plan)
- Phase 8: Obtain all necessary approvals, resolve post-closing issues and implement closure (Closing)
- Phase 9: Implement post-closing integration (Integration)

- Phase 10: Conduct a post-closing evaluation of the acquisition (Evaluation)

2.6.1 Phase 1: Building the business plan

A well-designed business plan, according to DePamphilis (2008), is a result of the following:

1. External analysis of the operating environment (competitors, markets, etc.)
2. Internal analysis – strengths, weaknesses, opportunities and threats (SWOT analysis)
3. Definition of a mission statement (where and how the company is positioned, values, etc.)
4. Setting objectives (developing quantitative measures of financial and non-financial performance)
5. Setting strategic direction, implementation and controls (how the objectives will be achieved)

2.6.2 Phase 2: Building the merger/acquisition implementation plan

Following an analysis of a range of options, if an acquisition or merger is necessary to achieve a business strategy, an acquisition or merger plan will be required.

This plan consists of management objectives, resources assessment, market analysis, how the process should be managed, a timetable for completing the acquisition or merger and the various stakeholders involved.

Management objectives may include financial and non-financial considerations. Financial objectives could include a minimum rate of return or operating profit, revenue and cash flow within a specified period. Non-financial objectives address motivations that support the achievement of the business plan, and may include rights to products, patents and brands, new distribution channels, production capacity, technology access, etc.

The depth to which the market analysis will be conducted will depend on whether the merger or acquisition is taking place in the same market or a new market. It will look at issues of market entry, customers, products and distribution channels.

During the early stages of the acquisition process, it is important to determine the maximum amount of resources available (especially people, including expert input and financial capability). The financial resources that are potentially available to the acquirer include those internally generated cash flows in excess of normal operating requirements, plus funds available from equity and debt markets. The target company may also provide opportunities for additional sources of funding.

The acquisition plan will also have an implementation schedule that recognises all of the key events that must take place throughout the acquisition process. Every event should be characterised by beginning and ending milestones, as well as dates and individuals responsible for the achievement of milestones.

2.6.3 Phase 3: The search process

Initiating the search for potential acquisition candidates involves a two-stage procedure. The first step is to establish the primary screening or selection criteria. The primary criteria will include the industry and the size of the transaction. The size of the transaction is best defined in terms of the maximum purchase price that a firm is willing to pay.

The second step is to develop a search strategy. Such strategies normally entail using computerised databases, as well as merger and acquisition expert firms. Acquiring firms may also ask their legal, banking and accounting firms to identify other candidates. Investment banks, brokers and leverage buy-out firms are also very good sources of candidates, although they are likely to require an advisory or finder's fee. Industry analysts in the market being targeted also have very useful sources of information.

Finding reliable information about privately owned firms can be a major challenge. However, publicly available information can be used as a guide. Benchmarking done on the type of industry can also be used as a guide. For example, a firm's

sales can be roughly estimated by multiplying an estimate of its workforce by the industry-average ratio of sales per employee.

2.6.4 Phase 4: The screening process

The screening process is a refinement of the search process. It begins with a pruning of the initial list of candidates. The following are some of the criteria that can be used to screen potential targets:

- Market segment
- Product line
- Profitability
- Degree of leverage
- Market share

Market segment

The search criteria involve the specification of the target industry. It is now necessary to identify the target segment in the industry. For example, a steel manufacturing company may decide to diversify by acquiring a manufacturer of aluminium flat-rolled products. A primary search criterion would be to include only firms manufacturing aluminium flat-rolled products. Subsequent search criteria may focus on companies that manufacture aluminium tubular products.

Product line

The product line criterion would identify a specific product line within the target market segment. The steel manufacturing in the previous example may decide to focus its search on companies manufacturing tubular products used in the manufacturing of lawn and patio furniture.

Profitability

The profitability criterion should be defined with parameters such as percentage return on sales, assets or total investments. This will allow a more accurate comparison among candidates of different sizes.

Degree of leverage

Debt-to-equity or debt-to-total capital ratios often are used to measure the level of leverage or indebtedness. The acquiring company may not want to purchase a company whose heavy debt burden may cause the acquiring company's leverage ratios to exceed targeted levels and jeopardise the acquirer's credit rating. The debt/equity ratio must be considered in conjunction with the firm's ability to generate sufficient cash flow to finance the debt.

Market share

The acquiring firm may be interested only in firms that have a large market share in the targeted industry. Firms having a substantially greater market share than their competitors are often able to achieve lower cost positions than their competitors because of economies of scale.

2.6.5 Phase 5: First contact

The approach suggested for initiating contact with a target company depends on the size of the company, whether the target is publicly or privately held, and on the acquirer's time-frame for completing the transaction. Relationship building enhances the deal-negotiation process.

For small companies (<US\$25 million in sales) in which the buyer has no direct contacts, a letter of expression of interest, followed by a phone call and a meeting may be sufficient.

For medium-sized companies (between US\$25 million and US\$100 million) contact should be made at the highest level possible through an intermediary. Intermediaries include members of the acquirer's board, an investment banker, legal counsel or broker.

For large, publicly traded companies, contact should also be made at the highest level through an intermediary. Discretion is extremely important to prevent the target company from becoming a potential target of other acquirers. Even rumours of an acquisition can have substantial and adverse consequences for the target. Employees, suppliers, customers and shareholders become increasingly

concerned when there are rumours. The Johannesburg Securities Exchange (JSE) regulations require a company to make a public disclosure if there is a leak in respect of an acquisition of or by a listed company.

Neither the buyer nor the seller has an incentive to be the first to provide an estimate of value. Getting a range may be the best option at this initial stage. This can be done by discussing completed acquisitions of a similar nature.

Preliminary legal documents include a confidentiality agreement, a letter of intent and a term sheet.

The confidentiality agreement (also called a non-disclosure agreement) is generally mutually binding and covers all parties to the transaction. This agreement should cover only information that is not in the public domain and should have a reasonable expiration date.

The letter of intent is used to identify process areas of agreement and disagreement. It formally stipulates the reason for the agreement, as well as the major terms and conditions. It also sets out the responsibilities of both parties while the agreement is in force. It specifies the types of data that must be exchanged and the duration and extent of the initial due diligence.

The term sheet is a discussion document outlining the primary terms with the seller and is often used as a basis for a more detailed letter of intent. Many transactions skip the term sheet and go straight to negotiating the letter of intent.

2.6.6 Phase 6: Negotiation

Negotiation is essentially a process in which two or more parties, representing different interests, attempt to achieve consensus on a particular issue. A useful starting point in any negotiation is to determine areas of agreement and disagreement.

The negotiation process consists of four concurrent activities, namely:

- Refining the valuation
- Deal structuring

- Due diligence
- Developing a financing plan

Refining the valuation

The first activity within the negotiation phase of the acquisition process involves updating the preliminary valuation of the target company. The buyer may also request and review at least three to five years of historical financial data. This information is usually an audited version in accordance with the International Financial Reporting Standards (IFRS). The valuations are normalised for abnormal transactions and then refined using standard financial modelling techniques.

The financial modelling process involves four discrete steps, namely:

- Value acquirer and target firm as stand-alone businesses.
- Value acquirer and target firm, including synergy.
- Determine initial offer price for target firm.
- Determine combined firms' ability to finance transaction.

There are five basic methods of valuation, namely:

- Income or discounted cash flow (DCF)
- Market-based valuation
- Asset-oriented valuation
- Replacement cost
- Contingency claims or real options approach

Deal structuring

In purely financial terms, deal structuring involves the allocation of cash flow streams (with respect to amount and timing), the allocation of risk, and therefore the allocation of value between the different parties to the transaction.

In practice, it deals with potential sources of disagreement on issues such as forms of payment, legal, accounting and tax structures. It also addresses issues pertaining to, but not limited to, how ownership is determined, how assets are transferred, how ownership is protected (governance) and how risk is apportioned among the parties to the transaction.

The deal-structuring process consists of a number of interdependent components. These include the acquisition vehicle, the post-closing organisation, the legal form of the selling entity, the form of payment, the form of acquisition and tax considerations.

The acquisition vehicle refers to the legal structure (e.g. corporation or partnership) used to acquire the target company. The post-closing organisation is the organisational and legal framework (e.g. corporation or partnership) used to manage the combined business following completion of the transaction. The form of payment may consist of cash, common stock, debt or some combination. The form of acquisition reflects both what is being acquired (e.g. stock or assets) and the form of payment.

Conducting due diligence

The parties to the transaction should conduct their own due diligence to assess potential risks and rewards accurately. The types of due diligence conducted by the different parties may include:

- Buyer due diligence
- Seller due diligence
- Lender due diligence

Buyer due diligence will focus on issues such as validation of the assumptions underlying the valuation. It will draw on a strategic/operational/marketing review by senior operations and marketing management, a financial review by financial and accounting personnel, and a legal review by the buyer's legal counsel. The strategic and operational review must focus on the seller's management team, operations, and sales and marketing strategies. The financial review will focus on

the accuracy, timeliness and completeness of the seller's financial statements. Finally, the legal review will consider corporate records, financial matters, management and employee issues, tangible and intangible assets, material contracts and the obligations of the seller.

Seller due diligence will essentially consider whether the buyer has the financial capability to effect the transaction. It will also look at the accuracy of the seller's internal investigation to ensure the accuracy of the representations and warranties made in the agreement.

If the buyer is borrowing to buy a target firm, the lender(s) will also want to perform their own due diligence to ensure the accuracy of the valuations, as well as the buyer's ability to repay the loan.

Developing the financial plan

This involves the development of a balance sheet, and income and cash flow statements for the combined firms in accordance with IFRS and includes the cost of financing the transaction. This is essential in determining the purchase price because it places a limitation on the purchase price that the buyer can offer the seller.

According to capital budgeting theory, an investment should be funded as long as the net present value (NPV) is greater than or equal to zero. In applying the same concept to the acquisition, the buyer should be able to finance a purchase price up to the present value of the target company as an independent or stand-alone entity, plus the synergy created by combining the acquiring and target companies, discounted at the appropriate cost of capital.

No matter what the size of the transaction, lenders and investors will want to see a coherent analysis explaining why the proposed transaction is a good investment opportunity for them. The financial plan is therefore a marketing or sales document to negotiate the best possible terms for financing the proposed transaction.

2.6.7 Phase 7: Developing the integration plan

The euphoria that surrounds the successful completion of a transaction could erode quickly once the challenges of making the combined firms perform in line with the predictions laid out in the business and acquisition plans become apparent.

Successful integration requires getting employees in both firms to work towards achieving common objectives and comes through building trust and credibility.

The appointment of an integration manager with excellent interpersonal and project management skills could be very useful. It is important to determine what is critical for the continuation of the acquired company's success during the immediate period (one to two years) after closing of the deal. Critical activities include the identification of key managers, vendors and customers, as well as what is needed to retain these valuable assets.

The pre-closing integration planning activity also should include the determination of the operating norms and/or standards required for continued operation of the businesses. These include executive compensation, labour contracts, billing procedures, product delivery times and quality expectations. A communication plan to keep all stakeholders informed is essential.

2.6.8 Phase 8: Closing

The closing phase of the acquisition process consists of obtaining all necessary shareholder, regulatory and third-party consents (e.g. customer and vendor contracts), as well as completing the definitive agreement of purchase and sale.

Assigning customer and vendor contracts

In the purchase of an asset, many customer and vendor contracts cannot be assigned to the buyer without receiving written approval from the other parties. Both vendors and customers may view this as an opportunity to attempt to negotiate more favourable terms. Licences must also receive approval from the licensor.

Gaining necessary approvals

The buyer's legal counsel is responsible for ensuring that the transaction is in full compliance with securities, antitrust and state corporation laws. The transaction must also meet the approval of the acquirer and target shareholders.

Completing the definitive agreement

The definitive agreement is perhaps the most important of all the closing documents, and indicates the rights and obligations of the parties both before and after closing of the deal.

The major components of an asset purchase agreement include the following:

- Purpose of acquisition
- Price
- Allocation of price
- Payment mechanism
- Assumption of liabilities
- Representations and warranties
- Covenants
- Conditions for closing
- Indemnification
- Mergers agreements
- Other closing documents

2.6.9 Phase 9: Implementing post-closing integration

The post-closing integration is one of the most important phases of the acquisition process. The post-closing integration activity consists of:

- Implementing an effective communication plan
- Retaining key managers
- Identifying immediate operating cash flow requirements
- Employing the best practices from both companies
- Addressing cultural issues

Communication plans

An effective communication plan is crucial for the purpose of retaining the employees of the acquired firm and maintaining or boosting their morale and productivity. The plan should address employee, customer and vendor requirements. Employees need to understand how their compensation, including benefits, might change under the new ownership. Customers would want reassurance that there will not be any deterioration in product or service quality or delivery time during the transition period. Vendors will also be interested in understanding how the change in ownership will affect their sales to the new firm.

Employee retention

Middle-level managers should be a top priority during this phase of the acquisition process. In most cases, senior managers that the buyer chose to retain are asked to sign employment agreements as a condition to closing. However, although senior managers provide overall direction for the firm, middle-level managers execute the day-to-day operations of the firm. Retention schemes have to be put in place to minimise turnover.

Satisfying cash flow requirements

Operating cash flow will be essential in dealing with short- to medium-term cash needs. There will be a need to make clear in discussions with middle managers, following closure of the deal, areas in which maintenance expenditures have been deferred. Receivables, previously thought to be collectable, may have to be written off. Production may be disrupted as employees of the newly acquired firm try to adapt to new practices introduced by the acquiring company or if inventory levels

are inadequate to maintain desired customer delivery times. Finally, more customers than had been previously anticipated may be lost to competitors during the period of transition.

The net effect of these issues needs to be understood and managed to ensure that there is sufficient operating cash flow.

Employing best practices

The benefits of operating synergies are normally realised when a vehicle or platform exists for sharing best practices from both organisations. This includes areas of operating efficiency, product quality, customer service and on-time delivery.

The new organisation is therefore able to combine the best practices and let go of those that will not fit in with or support the new organisation.

Cultural issues

Corporate cultures reflect the set of beliefs and behaviours of the management and employees of that organisation. Some organisations are paternalistic and others are very 'bottom line' oriented. Some empower employees, whereas others believe in highly centralised control. Some promote problem solving within a team environment and others encourage individual performance.

Inevitably, different corporate cultures will impede post-acquisition integration efforts and there will be a need to manage them effectively.

2.6.10 Phase 10: Conducting a post-closing evaluation

The main objective of conducting a post-closure evaluation is to determine whether the acquisition is meeting its expectations, to determine corrective actions, if necessary, and to identify what was done well and what should be done better in future acquisitions.

Some of the key issues to consider include the following:

- Do not change performance benchmarks.

- Ask the difficult questions.
- Learn from mistakes.

Performance benchmarks

Once the acquisition appears to be operating normally, the actual performance needs to be evaluated against that projected in the acquisition plan. Success should be defined in terms of the actual as opposed to the planned performance.

It is often quite tempting to ignore the performance targets set during the acquisition and accept less than the planned performance to justify the acquisition. This may be appropriate if circumstances beyond the firm's control have caused a change in the operating environment. Typical examples include a recession, which slows growth in revenue, or changing regulations, which preclude the introduction of a new product.

Ask the difficult questions

Some of the questions that need to be asked, depending on the time elapsed since closing, may include:

- Were the original valuation assumptions reasonable?
- What did the buyer do well, and what needs to be done differently?
- Is the business performing to expectations, and if not, why?
- Are the right people in place to manage the business for the long term?
- Are there any new risks or threats that need to be managed?

2.7 DISCUSSION ON MERGER OBJECTIVES AND PROCESS

In the South African mining industry, most of the motives for mergers and acquisitions are driven by legislation compliance, operational and financial synergy benefits, strategic re-alignment to achieve scale in terms of production and significant market capitalisation, diversification in terms of commodities from a risk point of view and buying of undervalued assets. In a few instances,

managerial pride, misevaluation and tax considerations (ring fencing) may have motivated merger and acquisition activities.

The motive behind a merger or an acquisition is very important, since it offers clarity of purpose and focus throughout the process of target acquisition, deal valuation and post-merger integration. It also assists in clarifying the non-financial benefits and threats to the merger objective.

The process of post-merger integration is probably by far the most important step in any deal process. When companies merge, they do not merge only income statements, balance sheets and cash flows. They also merge people, cultures, systems and procedures, which often take a long time to integrate. In the recent hostile bid made by XStrata for Anglo American, the new Chairman of Anglo American, Sir John Parker, objected to the merger as having the potential to destroy value because the two companies, in his opinion, differ significantly in cultures and operating philosophy. The post-merger integration impacts significantly on how much of the value anticipated can be extracted and how long it could take to extract such value.

During the acquisition trail of Harmony, in addition to assets from the old Harmony and Evander, the company acquired assets from Randfontein, Elandskraal, Freegold and ARMgold. Within about three years between 2000 and 2003, the cultures of JCI, AngloGold and ARMgold had to be merged into the existing culture. The psychological and emotional impact of such cultural clashes can be very traumatic for employees and careful attention needs to be paid to address these issues to ensure the realisation of the intended benefits. There were also significant differences in organisational structures, remuneration/payroll systems and material resource planning systems, to mention a few.

It is also very important to note that deal objectives may not always be financial, hence any assessment framework must also incorporate non-financial issues to achieve a balanced and comprehensive value assessment of mergers and acquisitions.

2.8 PARTICIPANTS IN THE MERGER AND ACQUISITION PROCESS

Some of the key participants in the merger and acquisition process, other than the board, management and employees of the company, may include the following (DePamphilis, 2008):

- Investment bankers
- Lawyers
- Accountants
- Proxy solicitors
- Public relations firms
- Institutional investors
- Hedge and private equity funds
- Merger and acquisition arbitrageurs

Investment bankers provide strategic and tactical advice and acquisition opportunities, screen potential buyers and sellers, make initial contact with a seller or buyer, and provide negotiation support, valuation and deal-structuring guidance. They also issue a fairness opinion letter as a third party to a deal, certifying the appropriateness of the price of a proposed deal. Large investment banks are also able to assist in funding through syndicates.

Lawyers assist with the legal framework, on issues of corporate tax, employee benefits, antitrust, securities and intellectual property.

Accountants provide input and guidance on issues such as optimal tax structure, financial structuring and financial due diligence. They also perform the role of auditors by reviewing financial statements.

Proxy contests may arise due to attempts to change management control of a company by gaining the right to cast votes on behalf of other shareholders. *Proxy solicitors* are then useful contacts to dissident shareholders. They may also be used by management to design strategies to educate shareholders and communicate why shareholders must follow the board's recommendation.

Communicating a consistent position during a takeover attempt is vital. Inconsistent messages may reduce the credibility of the parties involved. *Public relations firms* are used in assisting parties in this regard.

Institutional investors include public and private pension funds, insurance companies, investment companies, bank trust departments and mutual funds. They provide a source of financial funding for mergers and acquisitions and can also be a useful sounding board for acceptance of the deal by the investing community.

Private equity funds are usually private investment limited partnerships or offshore investment corporations. An important difference between them and hedge funds is the time investors are required to commit funds. Investors in hedge funds are generally given more frequent access to their money than those who invest in private equity. Hedge and private equity funds provide financial funding. They may also be used for completing transactions, arranging financing, performing due diligence and monitoring the business performance of companies in their portfolio.

When a bid is made for a target company, the target company's stock price often trades at a small discount to the actual bid. This reflects the risk that the offer may not be accepted. *Merger and acquisition arbitrage* refers to an investment strategy that attempts to profit from this situation.

Employee representatives or organised labour (unions), governments, communities and non-governmental organisations are also very much key stakeholders that play a vital role in the merger and acquisition process.

2.9 MERGER AND ACQUISITION TRENDS

Merger activity tends to take place in waves – a time of increased activity followed by a period of relatively few acquisitions. There have been six merger and acquisition 'waves' over the past century between the periods of 1897 to 2007. Each wave has been stimulated by events outside the merger world, but which have had a significant impact on the level of merger activity (Moeller & Brady, 2007).

The first wave took place from 1897 and continued to 1904. It started in the United States after the depression of 1893 had ended, and continued until the 1904 stock market crash, with a peak between 1898 and 1902. This merger wave featured horizontal mergers (about three-quarters of them) and often resulted in a near-monopolistic situation in the consolidating industries: metals, food, oil, chemicals, machinery and coal. Some of the companies formed from this wave in the United States have remained global powerhouses and include Du Pont, Standard Oil, American Tobacco, General Electric, Eastman Kodak and US Steel.

The second wave took place from 1916 until the Great Depression started in 1929. The growth of this merger and acquisition wave was facilitated by co-operation among businesses as part of the Great War (World War I) effort, when governments did not enforce antitrust laws and in fact encouraged businesses to co-operate. For the first time investment bankers were aggressive in funding mergers, and much of the capital was controlled by a number of small investment bankers (most notably J.P. Morgan). The role of investment bankers in driving the deal market continues today. Over two-thirds of this wave was horizontal, while most of that remaining was vertical. Many of these mergers created huge economies of scale that made firms economically stronger. The industries that were mostly involved were mining, oil, food products, chemicals, banking and automobiles. Some of the companies created in the United States in this period were General Motors, IBM, John Deere and Union Carbide.

The third wave occurred from 1965 to 1969. Many of the deals in this wave were driven by what was later determined to be irrational financial engineering of company stock market earnings ratios (similar in many ways to the exuberance of the dot.com era 30 years later). This wave was mainly conglomerate mergers. A classic example was the acquisition by ITT of companies as diverse as Sheraton Hotels, Avis Rent-a-Car, Continental Banking, a consumer credit company, various parking facilities and several restaurant chains. One reason for such conglomerate mergers was the worldwide growth after World War II in stronger antitrust rules, thus forcing companies that wanted to expand by acquisition to look for unrelated businesses.

The fourth wave was from 1981 to 1989 and was characterised by hostile takeovers. The number of hostile takeovers rose dramatically, the role of the 'corporate raider' developed, anti-takeover strategies and tactics became more sophisticated and investment bankers and attorneys played a more significant role. The development of the high-yield bond market enabled companies to launch 'mega deals' and even purchase companies bigger than themselves (reverse takeover). This trend contributed to the high number of leverage buy-outs with excessive use of debt and companies going private. The relaxation of antitrust rules in the United States and the United Kingdom assisted this wave.

The fifth wave, which occurred between 1994 and 2000, was characterised by consolidation of industries and globalisation. The dot.com boom and bust also occurred during this wave. The industries involved were oil, financial services, information technology, telecommunications, pharmaceuticals and automobiles. Companies involved in consolidations included Daimler Benz and Chrysler, Glaxo and Wellcome, Exxon and Mobil, Mannesmann and Vodafone, Chase Manhattan and J.P. Morgan, and Hewlett Packard and Compaq.

The sixth wave began in 2003, less than three years after the previous cycle, indicating shorter and more frequent waves of merger and acquisition activities. This wave is mainly horizontal and cross-border. It has also been heavily influenced by the corporate scandals and the resulting laws and regulations that have been passed – most notably the Sarbanes-Oxley Act in the United States. This wave has also shown a rise in activity by financial buyers (hedge funds, private equity funds, venture capital funds). Mining, metal and resource companies have been very active during this wave, as a result of an increase in demand for commodities from China and other countries in Asia which have experienced phenomenal growth. The acquisition of Arcelor by Mittal and the acquisition of Alcan Inc by Rio Tinto are examples. With the current global economic recession and credit bubble burst that began in 2008, there has been a decline in merger and acquisition activity, which might perhaps signal the end of this wave.

Despite the extreme caution exercised by most organisations to preserve cash, the value of most companies has fallen sharply due to stock market decline offering opportunities to purchase assets cheaply. It is therefore foreseeable that a

new wave of merger and acquisition activity may begin once the current global recession has stabilised.

2.9.1 Historical global mergers and acquisitions

The mergers and acquisitions that are documented mostly originated in the United States, especially between the period 1895 to 1995. Global data on mergers and acquisitions are more evident between 1995 and 2005, as shown in Table 2.9.1.

Table 2.9.1: Global Mergers and Acquisitions between 1995 and 2005

Year	Number of Deals (Global)	Deal Value (US\$ bn)	Number of Deals (US)	Deal Value (US\$ bn)	By Value US/Global %
1995	22,027	980	3,510	356	36.3
1996	23,166	1,146	5,848	495	43.1
1997	22,642	1,676	7,800	657	39.2
1998	27,256	2,581	7,809	1,192	46.1
1999	31,701	3,439	9,278	1,426	41.4
2000	37,204	3,497	9,566	1,706	48.7
2001	28,828	1,745	8,290	759	43.4
2002	26,270	1,207	7,303	441	36.5
2003	27,753	1,333	8,131	559	41.9
2004	31,467	1,949	9,783	812	41.6
2005	33,574	2,775	10,644	1,045	37.6
2006	37,032	3,794	10,977	1,563	41.1

Source: (DePamphilis, 2008)

By value, United States deals account for about 36 to 49% of total global deals. This could be one of the reasons why most of merger and acquisition studies

conducted involve companies in the United States, because the impact needs to be understood.

2.9.2 Historical global mining mergers and acquisitions

Mining mergers and acquisitions have increased considerably over the years, fuelled mainly by growing commodity demand from China and India. The period between 2006 and early 2008 saw a phenomenal increase in actual deals, as well as potential mega deals that were cancelled or postponed due to the global economic slowdown.

After two years of record mining merger and acquisition activity, 2008 turned out to be a year of extremes, with the earlier part of the year following a pattern established in the previous years before plunging in the closing months (Goldsmith, 2009).

The most notable potential deal that would have created an all-time record was the BHP Billiton potential bid of about US\$150 billion for Rio Tinto. It was a super-consolidation deal that never happened due partly to Competition Commission considerations, but mostly to the deteriorating global financial and economic climate.

Even though the global credit crisis had been constraining the financial and economic outlook since mid-2007, there remained a sentiment that this was a crisis whose effects could be contained by the growing commodity demand from China and India. The quest for world-scale resource acquisition, resource diversification and sector consolidation drove deals well into 2008 until the collapse of Lehman Brothers in September 2008. This sounded an alarm to the sector and triggered a rapid fall in most commodity prices, resulting in most deals being called off. These included the rumoured US\$90 billion bid by Vale for XStrata and the US\$5 billion bid for Lonmin by XStrata.

2.9.3 Analysis of mining deals

Mining merger and acquisition activities in South Africa form part of the global mining deals. Understanding the scale and nature of global mining deals relative

to deals in Africa (of which South Africa forms a larger proportion) is essential to enable us to put the size and number of South African mining deals in context.

Reliable information on global mining deals could be obtained from 2004 to 2008. The information obtained is as follows:

- Number of deals, total deal value and average deal value in US dollar terms, as shown in Table 2.9.3a
- Deal classification by size: minor (below US\$250 million), medium (between US\$250 million and US\$1 billion) and major (above US\$1 billion), as shown in Table 2.9.3b
- Deal classification by geographical regions: Europe, North America, South America, Russian Federation, Asia Pacific, Africa and the Middle East, as shown in Table 2.9.3c
- Deal classification in terms of commodity: base metals (nickel, copper and aluminium), ferrous (iron ore), precious metals (gold, silver and platinum), diversified (companies with a wide range of mining activities across subsectors) and other (including coal, uranium, mineral sands and mining services), as shown in Figure 2.9.3.

Table 2.9.3a: Total Mining Deals (yoy % in parenthesis)

	2005	2006	2007	2008
Total number of deals	762	1 026 (+ 35%)	1 732 (+ 69%)	1668 (- 4%)
Total value of deals (US\$ bn)	69.8	133.9 (+ 92%)	158.9 (+ 18%)	153.4 (- 4%)
Average deal value (US\$ m)	125.6	196.6 (+ 58%)	137.5 (- 0%)	124.0 (- 1%)

Source: PricewaterhouseCoopers, *Mining Deals 2008 Annual Review*

Table 2.9.3b: Number of Deals Per Category

	2005	2006	2007	2008
Minor deals (< US\$250 m)	732	970	1 644	1 572
Medium deals (US\$ 0.25–US\$ 1 bn)	22	38	63	66
Major deals (> US\$ 1 bn)	8	18	25	30

Source: PricewaterhouseCoopers, *Mining Deals 2008 Annual Review*

Table 2.9.3c: Mining Deals per Geographical Region (with change from 2007 to 2008 in %)

Europe	2005	2006	2007	2008	% change
Deal value (US\$ bn)	2.2	3.8	3.0	22.4	653%
Number of deals	66	73	70	49	-29%
North America	2005	2006	2007	2008	% change
Deal value (US\$ bn)	33.8	83.5	77.1	32.8	-57%
Number of deals	225	312	695	596	-14%
South America	2005	2006	2007	2008	% change
Deal value (US\$ bn)	1.4	8.6	8.7	22.8	163%
Number of deals	53	115	174	180	3%
Russian Federation & CIS	2005	2006	2007	2008	% change
Deal value (US\$ bn)	5.6	16.6	20.9	25.2	21%
Number of deals	50	100	57	77	35%
Asia Pacific	2005	2006	2007	2008	% change
Deal value (US\$ bn)	2.2	3.6	16.4	22.8	39%
Number of deals	96	129	245	267	9%
Australasia	2005	2006	2007	2008	% change
Deal value (US\$ bn)	11.1	7.3	19.2	17.1	-11%
Number of deals	207	237	391	360	-8%
Africa	2005	2006	2007	2008	% change

Deal value (US\$ bn)	9.5	9.8	13.5	9.6	-28%
Number of deals	59	52	94	131	39%
Middle East	2005	2006	2007	2008	% change
Deal value (US\$ bn)	0.1	0.6	0.2	0.6	221%
Number of deals	6	8	6	8	14%

Source: PricewaterhouseCoopers, *Mining Deals 2008 Annual Review*

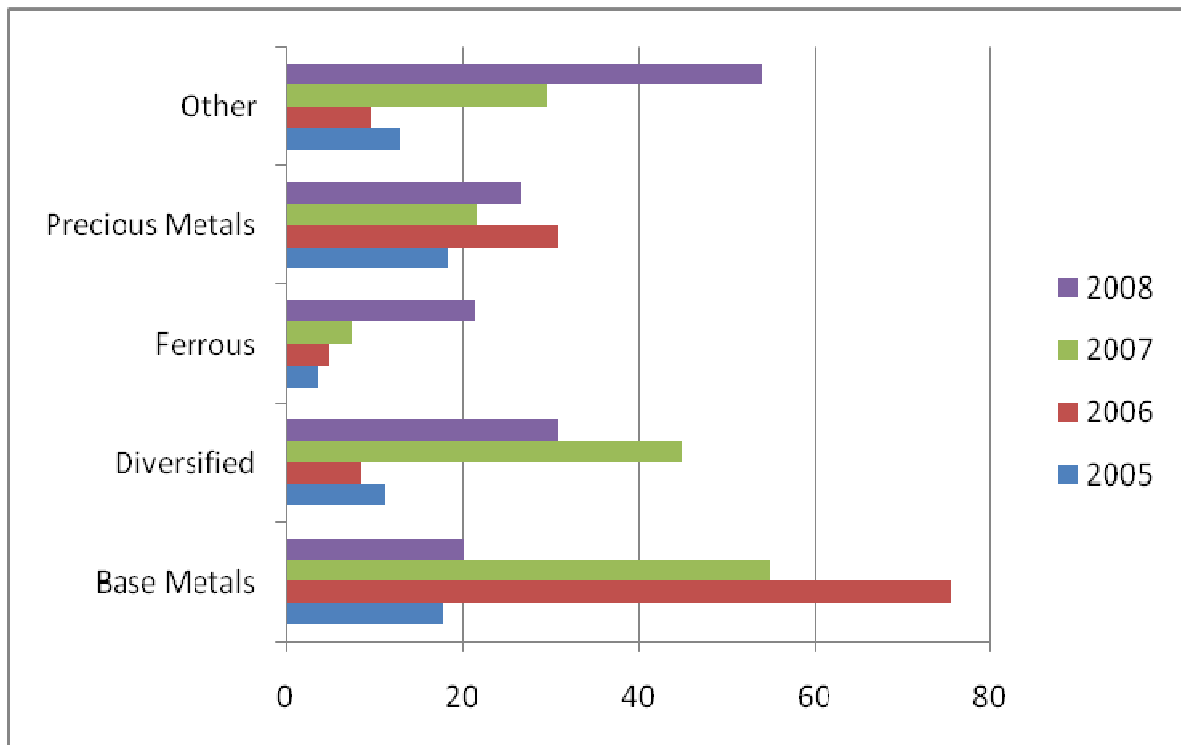


Figure 2.9.3: Deal Value Classification by Commodity Type

Source: PricewaterhouseCoopers, *Mining Deals 2008 Annual Review*

It is evident that the number of deals, average deal value and total deals increased very considerably (about threefold) between 2005 and 2008, due mainly to the surge in commodity prices as a result of demand from China and the rest of Asia (see Table 2.9.3d). The majority of the mining deals happen in North America, with Europe, South America, the Russian Federation and the Asia Pacific region showing higher trends in 2008. Africa and Australasia on average experience about US\$10 billion and US\$15 billion of deals per annum. South Africa accounts for most of the deals in Africa.

Table 2.9.3d: Top 10 Deals in US\$ million in 2008

No.	Value	Date	Buyers	Sellers	Sector	Area
1	14 316	01 Feb	Alcoa Inc	Rio Tinto	Diversified	Europe
2	12 651	29 Jul	Teck Cominco Ltd	Fording Canadian Coal Trust	Other	North America
3	10 000	05 Aug	Interros Holding OAO	Norilsk Nickel OAO	Base	Russia
4	4 665	31 Mar	Existing Shareholders	Anglo Ferrous Brazil SA	Ferrous	South America
5	3 904	18 Jan	PT Bakrie & Brothers Tbk	PT Bumi Resources	Other	Asia Pacific
6	3 730	03 Jun	CVC Capital Partners Ltd	Evonik Industries AG	Other	Europe
7	3 690	03 Mar	Oxiana Ltd	Zinifex Ltd	Diversified	Australasia
8	3 120	17 Oct	Itochu Corp, Nippon Steel Corp, POSCO Co Ltd, Kobe Steel Ltd, JFE Steel Corp, Nisshin Steel Co Ltd, Sumitomo Metal Industries Ltd	Nacional Minerios SA	Ferrous	South America
9	3 103	17 Jan	Anglo American Plc	IronX Mineracao SA	Ferrous	South America
10	2 798	03 Jul	Undisclosed buyer	Norilsk Nickel OAO	Diversified	Russia

Source: PricewaterhouseCoopers, *Mining Deals 2008 Annual Review*

2.10 DISCUSSION ON GLOBAL MINING MERGERS AND ACQUISITIONS

It is evident from the previous statistics on global mining mergers and acquisitions that Africa accounts for a very small portion of the global mining mergers and acquisitions in terms of total annual deal value. However, South Africa accounts

for about 90% of the mining mergers and acquisitions in Africa, and therefore has critical role to play in improving this situation.

This is unfortunate indeed, considering the fact that Africa hosts about 80% of global reserves of major key commodities but is also the least developed of the continents. The lack of mining merger and acquisition activity in Africa could be attributed, among others, to:

- (a) the fact that most of the operators of and investors in African mineral production are foreign owned companies and often listed overseas, so that most of these deals account to the country of origin of the investor
- (b) the poor investment climate in Africa, which can be attributed to political instability, unfavourable macro-economic policies, governance issues, infrastructure and social issues such as crime and bribery
- (c) the fact that most of the commodities produced in Africa are not fully beneficiated, making their economic value significantly lower compared with their value overseas when they are beneficiated

South Africa has an advantage in terms of its investment climate and the degree of beneficiation compared with the rest of Africa. The enactment of the Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA) will also cause some shift in ownership of some of the current foreign-owned companies as they sell a stake to BEE entities to comply with legislation. However, the survival and sustainability of the BEE deals that are likely to lead to an increase in future merger and acquisition activities will depend on the creation of value for stakeholders.

To address the poor state of mining mergers and acquisitions in Africa, an examination of the success of past, current and future mining deals in South Africa is very crucial. On this basis, this dissertation becomes very relevant in assisting the pursuit of the worthy cause of BEE acquisitions in a manner that minimises value destruction.

2.11 THE SOUTH AFRICAN ECONOMIC ENVIRONMENT

South Africa is home to about 6% of Africa's population and accounts for approximately 25% of the continent's Gross Domestic Product (GDP). It also accounts for about 45% of Africa's mineral production and 50% of the continent's purchasing power.

Four of South African banking institutions are rated amongst the world's top 500 financial institutions and South African banks are rated the 15th most secure out of 134 countries according to the World Economic Forum's Global Competitiveness Report 2008/2009.

The Johannesburg Securities Exchange (JSE) rates amongst the top 20 stock exchanges in the world by market capitalisation. The JSE regulations rank 5th globally.

The country has an extensive infrastructure, namely:

- (a) A road network of 754 000 km
- (b) A rail network which is the 10th longest in the world, connecting with networks in the sub-Saharan region
- (c) Port facilities which are the largest in southern Africa
- (d) More than 50 airlines carrying about 33 million passengers a year moving through the country's ten principal airports
- (e) The largest telecommunications network in Africa in terms of both customers and revenue

South Africa ranks 32nd of 181 countries in terms of ease of doing business. It also ranks 9th in terms of protection of investors in the country.

The above information was sourced from the Department of Trade and Industry report entitled *South Africa: Geared for Growth 2008*.

South Africa's GDP and economic growth from 1960 to 2006 are summarised in Table 2.11 (Roux, 2008).

Table 2.11: South Africa's Real GDP and Economic Growth

Year	Real GDP (R bn)	Economic Growth (%)
1960	273,0	-
1964	348,9	6,3
1969	452,1	6,7
1974	559,6	5,5
1979	621,6	2,7
1984	717,6	3,7
1989	772,4	1,9
1994	779,4	0,2
1999	885,4	3,2
2004	1 061,2	4,6
2005	1 115,8	5,1
2006	1 171,4	5,0

Source: Roux (2008)

2.12 THE SOUTH AFRICAN MINING INDUSTRY

For more than a century, South Africa's mineral industry, supported largely by the production of gold, diamonds, coal and platinum group metals, has made an important contribution to the national economy.

South Africa has the world's largest resources of platinum group metals (87.7%), manganese (80%), chromium (72.4%) and gold (40%). It also accounts for over 40% of the global production of ferrochromium, platinum group metals and vanadium. Moreover, it is the world's leading producer of chrome ore, vermiculite

and alumino-silicates and also among the world's top three producers of gold, manganese ore, titanium minerals and fluorspar. Tables 2.12.1 and Table 2.12.2 illustrate South Africa's mineral reserves and production relative to total world reserves and production (DME, 2008).

Table 2.12.1: South Africa's Mineral Reserves Ranking Globally

Commodity	Unit	Reserves	%	Ranking
Alumino-silicates	kt	51	n/a	n/a
Antimony	T	200	4.7	4
Chrome ore	Mt	5 500	72.4	1
Coal	Mt	27 981	6.1	8
Copper	kt	13 000	1.4	14
Fluorspar	Mt	80	16.7	2
Gold	T	36 000	40.1	1
Iron ore	Mt	1 500	0.9	9
Lead	Kt	3 000	2.1	6
Manganese ore	Mt	4 000	80	1
Phosphate rock	Mt	2 500	5.0	4
Platinum group metals	kg	70 000	87.7	1
Silver	t	n/a	n/a	n/a
Titanium minerals	Mt	244	16.9	2
Uranium	kt	341	7.2	5
Vanadium	kt	12 000	32.0	1
Vermiculite	kt	80 000	40.0	2



Zinc metal	kt	15 000	3.3	8
Zirconium minerals	kt	14 000	1.4	2

Source: SA Yearbook 2008/09, Minerals, Energy and Geology

Table 2.12.2: South Africa's Mineral Production Ranking Globally

Commodity	Unit	Production	%	Ranking
Aluminium	kt	914	2.4	9
Alumino-silicates	kt	265	59.0	1
Antimony	t	3 354	2.5	7
Chrome ore	kt	9 683	n/a	n/a
Coal	Mt	248	4.5	5
Copper	kt	110	0.7	16
Fluorspar	kt	285	6.0	4
Gold	t	253	10.3	2
Iron ore	Mt	41	2.5	7
Lead	Mt	42	1.2	11
Manganese ore	kt	5,589	14.2	2
Nickel	kt	42	3.1	9
Phosphate rock	kt	2 556	1.7	10
Platinum group metals	kg	304 031	56.7	1
Silver	t	70	0.3	21
Titanium minerals	kt	1 181	19.5	2
Uranium	t	639	1.6	11
Vanadium	kt	24	40.0	1

Vermiculite	kt	200	38.5	1
Zinc metal	kt	31	0.3	25
Zirconium minerals	kt	405	41.6	2

In 2007, about 53 different minerals were produced from 1 414 mines and quarries, 50 of which were gold, 31 platinum group minerals, 96 coal and 344 diamonds, all as primary commodities (DME, 2008).

South Africa's mineral wealth is typically found in the following geological formations and settings:

- The Witwatersrand Basin yields about 94% of South Africa's gold output and contains considerable resources of uranium, silver, pyrite and osmiridium.
- The Bushveld Complex is known for its platinum group metals (with associated copper, nickel and cobalt mineralisation), chromium and vanadium-bearing titanium iron ore formations, as well as large deposits of the industrial minerals, including fluorspar and andalusite.
- The Transvaal Supergroup contains enormous resources of manganese and iron ore.
- The Karoo Basin hosts considerable bituminous coal and anthracite resources.
- The Phalaborwa Igneous Complex hosts extensive deposits of copper, phosphate, titanium, vermiculite, feldspar and zirconium ores.
- Kimberlite pipes host diamonds that also occur in alluvial, fluvial and marine settings.
- Heavy mineral sands contain ilmenite, rutile and zircon.

The key producing companies in gold are AngloGold Ashanti, GoldFields and Harmony, and there are smaller producers such as Simmers and Jack, Great Basin Gold and Aflase Gold.

The key platinum group metal producers are Anglo Platinum, Impala Platinum and Lonmin Plc, and there are smaller producers such as Wesizwe Platinum, Anooraq Resources and Eastern Platinum.

The major coal-producing companies are Anglo Coal, BHP Billiton Energy Coal SA, Exxaro Coal and Xstrata Coal SA, and there are smaller producers such as Keaton Energy, Sentula and South African Coal Mining Holdings.

The key major diamond producers are De Beers, Petra Diamonds and Trans Hex, and the major iron ore and/or manganese producers are Kumba Iron Ore, Assmang, BHP Billiton and Anglo American Plc.

The South African mining industry is also involved in the beneficiation of chromium and manganese alloys and has key aluminium smelters.

2.13 THE ROLE OF MINING IN THE SOUTH AFRICAN NATIONAL ECONOMY

In 2007, mining contributed R135.6 billion to the South African economy, which equates to 7.7% of the country's GDP. Mining also contributed 8.9% of the Total Fixed Capital Formation (TFCF). The total contribution of mining to state revenue was R18.5 billion in 2007. Table 2.13.1 and Table 2.13.2 illustrate these figures from 1998 to 2007.

Table 2.13.1: Mining Contribution to GDP and TFCF in South Africa

Year	GDP (R bn)	Mining (R bn)	%	TFCF (R bn)	Mining (R bn)	%	Exports (R bn)	Mining (R bn)	%
1998	674.88	45.88	6.8	126.91	11.32	8.9	160.76	55.30	34.4
1999	738.87	52.17	7.1	126.75	11.64	9.2	174.32	58.30	33.4
2000	838.22	63.39	7.6	139.65	13.85	9.9	222.06	76.30	34.4

2001	928.22	77.21	8.3	153.53	15.87	10.3	265.83	89.94	33.8
2002	1 063.80	92.11	8.7	175.59	19.80	11.3	333.25	109.36	32.8
2003	1 143.68	84.26	7.4	200.51	21.71	10.8	291.43	86.75	29.9
2004	1 250.95	89.29	7.1	178.12	14.22	8.0	310.53	89.67	28.9
2005	1 372.37	103.01	7.3	194.05	12.37	6.4	352.15	102.49	29.3
2006	1 543.94	119.37	7.7	324.20	26.30	8.1	434.50	138.88	31.9
2007	1 768.22	135.55	7.7	410.62	36.62	8.9	535.74	161.76	30.2

Source: Department of Minerals and Energy Report, *South Africa's Mineral Industry 2007/2008* (DME, 2008)

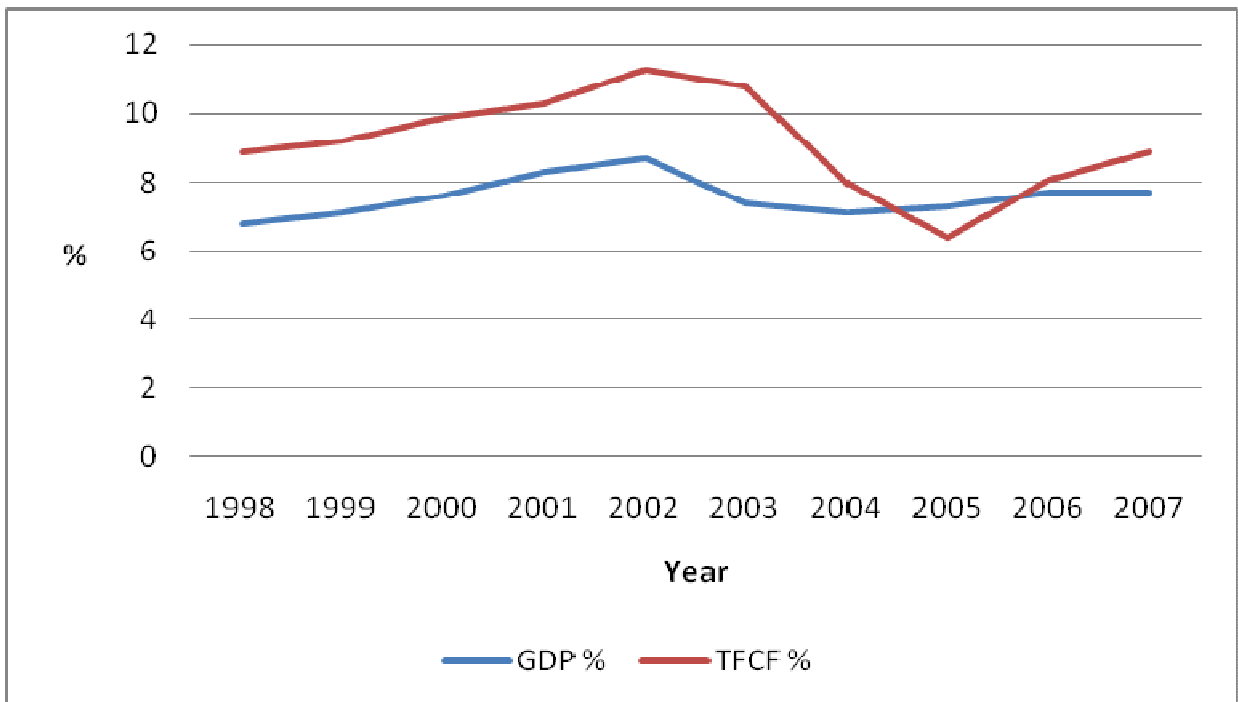


Figure 2.13: Mining Contribution to GDP and TFCF in South Africa

As can be seen from Figure 2.13, there was a sharp decline in TFCF percentage from 2002 when the MPRDA was published which could, among others, be attributed to fear and uncertainty among mining companies and investors. However, this percentage has improved since 2005 as clarity and acceptance have improved and also due to rising commodity prices. Mining also accounts for

a substantial portion of the country's exports, resulting in R536 billion of exports in 2007, up from R160 billion in 1998.

In addition, the mining industry is a key source of employment and job creation and employed about 0.5 million people in 2007. Table 2.13.2 shows the employment statistics from 1998 to 2007. These are expressed as a percentage of the total economically active population. The figures are therefore higher when expressed as a percentage of the employed population, which will be a true reflection of the mining industry's contribution to current employment in the economy.

Table 2.13.2: Mining Contribution to Employment in South Africa

Year	Number Employed	Percentage
1998	466 623	3.4
1999	437 028	3.0
2000	418 294	2.6
2001	407 154	2.7
2002	416 925	2.6
2003	434 859	2.7
2004	448 909	2.9
2005	444 132	2.6
2006	456 337	2.7
2007	495 474	2.9

Source: Department of Minerals and Energy Report, *South Africa's Mineral Industry 2007/2008* (DME, 2008)

2.14 LEGISLATIVE AND POLICY FRAMEWORK OF THE SOUTH AFRICAN MINING INDUSTRY

Mining and minerals policy in South Africa is based on the principles of the Freedom Charter of 1955, which aims at total inclusiveness in sharing the benefits derived from the mineral wealth of the nation ("South Africa belongs to all who live in it").

This led to the enactment of the Minerals and Petroleum Resources Development Act (MPRDA), No. 28 of 2002, as the guiding principle for mineral resource ownership, exploration, exploitation and rehabilitation. This Act also led to the establishment of what is known as the Mining Charter (officially the Broad-Based Socio-economic Empowerment Charter for the Mining Industry, first formally published in August 2004 and reissued in 2010), which sets out specific objectives and criteria for achieving the transformation aims set out in the MPRDA. Holders of prospecting and mining rights are also expected to utilise those rights by engaging in prospecting and mining activities within a specified period in accordance with the requirements of the MPRDA or lose those rights. This is often referred to as the 'use it or lose it' principle.

The Minister of Minerals and Energy was then expected by the MPRDA to set out the requirements of the Mining Charter within a specified period. The Mining Charter was therefore a legal requirement imposed upon the Minister by the MPRDA.

Due to some challenges posed by the original Act, the Minerals and Petroleum Resources Amendment Bill of 2007 was passed to:

- (a) facilitate the smooth implementation of the new minerals and mining dispensation by aligning it with sound administrative practices and the objectives of the Promotion of Administrative Justice Act, No. 3 of 2000
- (b) remove ambiguity and further protect certain existing rights

The Department of Minerals and Energy is the custodian of policy formulation and enforcement in consultation with employer representative organisations such as the Chamber of Mines, labour unions and business in a tripartite alliance.

Other policies that are relevant to the administration of mineral laws include:

- (a) Mines and Works Act, No. 27 of 1956, which deals with the safe design, construction, equipping, operating and decommissioning of mines
- (b) Mine Health and Safety Act, No. 29 of 1996, together with the Mine Health and Safety Amendment Act, No. 74 of 2008, which focuses on broad stakeholder participation in matters relating to safety and health and, more recently, has put much emphasis on the accountability of mine owners
- (c) Precious Metals Act, No. 37 of 2005, which provides for the acquisition of smelting, refining, using and disposing of precious metals, with emphasis on added value
- (d) Diamond Amendment Act, No. 29 of 2005, which regulates precious minerals and has also enabled access to rough diamonds by previously excluded people
- (e) Mineral Technology Act, No. 30 of 1989
- (f) Geoscience Act, No. 100 of 1993
- (g) Mining Titles Registration Amendment Act, No. 24 of 2003

Another key policy that is currently being discussed is the draft Mineral and Petroleum Royalty Bill of 2006, which aims at the use of Earnings Before Interest and Tax (EBIT) margins in the calculation of royalties, thus recognising capital costs and also differentiating between refined and unrefined production. The previous proposed royalty rate was based on Earnings Before Interest and Tax, Depreciation and Amortisation (EBITDA). The original draft, compiled around 2002, was based on turnover.

2.14.1 Black Economic Empowerment

The constitutional mandate for Black Economic Empowerment (BEE) contained in section 9(2) of the Constitution of the Republic of South Africa, 1996, led to the promulgation in 2004 of the Broad-Based Black Economic Empowerment Act, No. 53 of 2003, which provides the legislative framework for the promotion of BEE. Section 12 of the BBEEE Act provides for the publication of 'Transformation Charters' by the Minister of Trade and Industry.

2.14.2 BEE Scorecard

The typical generic BEE scorecard developed to facilitate, measure and monitor the level of BEE compliance is illustrated by the various elements and their respective weightings:

- Ownership 20 points
- Managerial control 10 points
- Employment equity 15 points
- Skills development 15 points
- Preferential procurement 20 points
- Enterprise development 15 points
- Socio-economic development 5 points

The ownership element measures the effective ownership of enterprises by Historically Disadvantaged South Africans (HDSAs). An HDSA is any person, category of persons or community disadvantaged by unfair discrimination before the Constitution of the Republic of South Africa, Act No. 108 of 1996, came into effect. The employment equity element measures the representation of HDSA in management roles. The skills development element is focused on developing the competencies of HDSAs in the workplace. The preferential procurement element measures the extent to which enterprises buy goods and services from suppliers with strong BEE recognition levels. The enterprise development element looks at

the extent to which companies carry out initiatives intended to assist and accelerate the development and sustainability of other HDSA enterprises. The socio-economic development aspect focuses on initiatives that contribute towards the socio-economic development of HDSAs, especially in the communities in which companies operate.

Depending on the total points achieved, based on the weighting from actual scores obtained in each element, BEE status and recognition levels can be assigned to companies, as illustrated in Table 2.14.2, which was obtained from Empowerdex.

The intention of BBEEE is to focus on all the elements, instead of a few of them, to ensure that transformation takes place in all facets of society. This has led to the term Broad-Based Black Economic Empowerment (BBBEE) as the accepted definition of transformation compliance.

Table 2.14.2: BEE Qualification, Status and Recognition Levels

BEE Status	Qualification	Recognition Level
Level 1 Contributor	100 points	135%
Level 2 Contributor	Between 85 and 100 points	125%
Level 3 Contributor	Between 75 and 85 points	110%
Level 4 Contributor	Between 65 and 75 points	100%
Level 5 Contributor	Between 55 and 65 points	80%
Level 6 Contributor	Between 45 and 55 points	60%
Level 7 Contributor	Between 40 and 45 points	50%
Level 8 Contributor	Between 30 and 40 points	10%
Non-compliant	Less than 30 points	0%

An Empowerdex interim progress report and sector comparison (Empowerdex, 2006) indicates the level of BEE compliance by sectors listed on the JSE. The resource sector performed below the JSE average, as shown in Figure 2.14.2a, indicating the degree of difficulty or lack of adequate progress with regard to transformation within the mining sector compared with other sectors. It must be borne in mind though, that the challenges facing each sector are unique and progress will therefore depend on ease of implementation and commitment. The report also shows the actual BEE score distribution ratio compared with what was proposed. Employment equity and procurement seem to be areas where not much progress has been made, as shown in Figures 2.14.2b and Figure 2.14.2c.

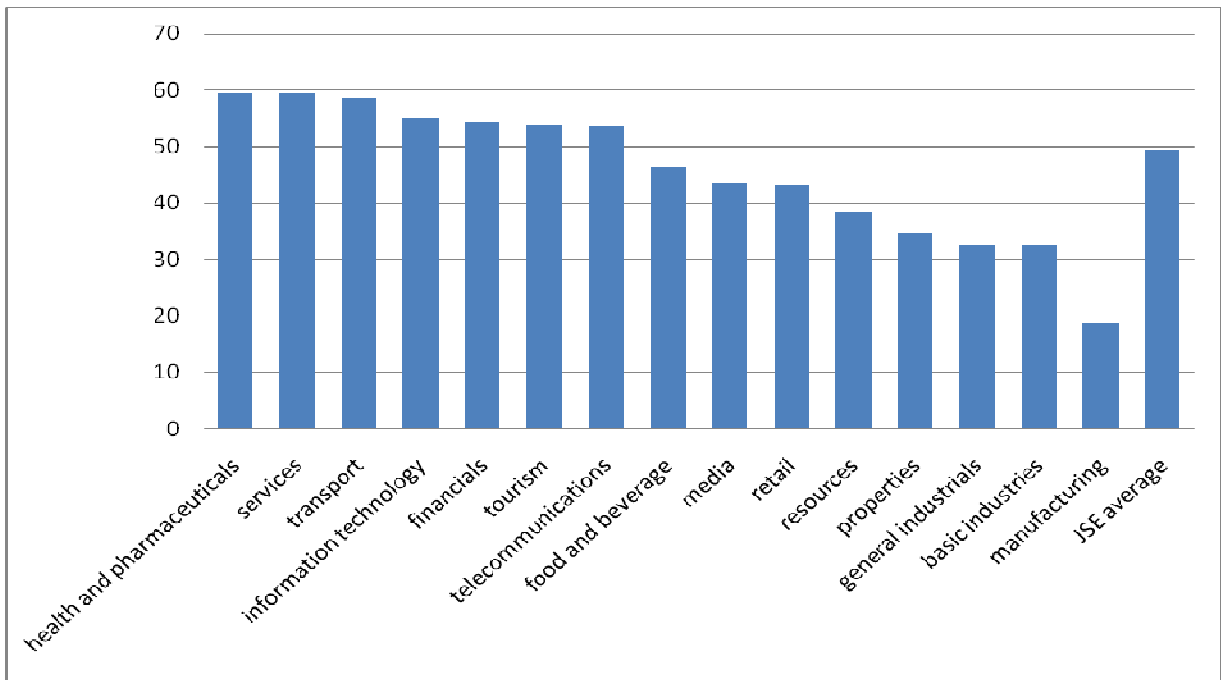


Figure 2.14.1a: BEE Rating of Various Sectors Listed on the JSE in 2006 (Source: Empowerdex, 2006)

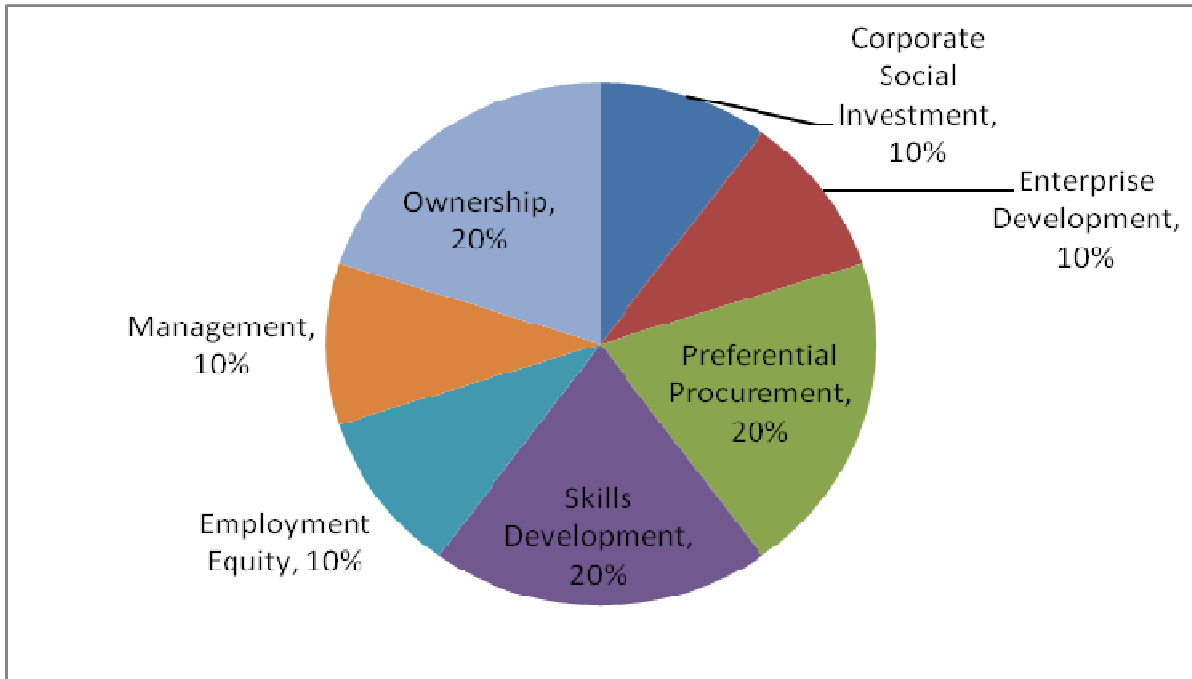


Figure 2.14.1b: Proposed BEE Distribution Score (Source: Empowerdex, 2006)

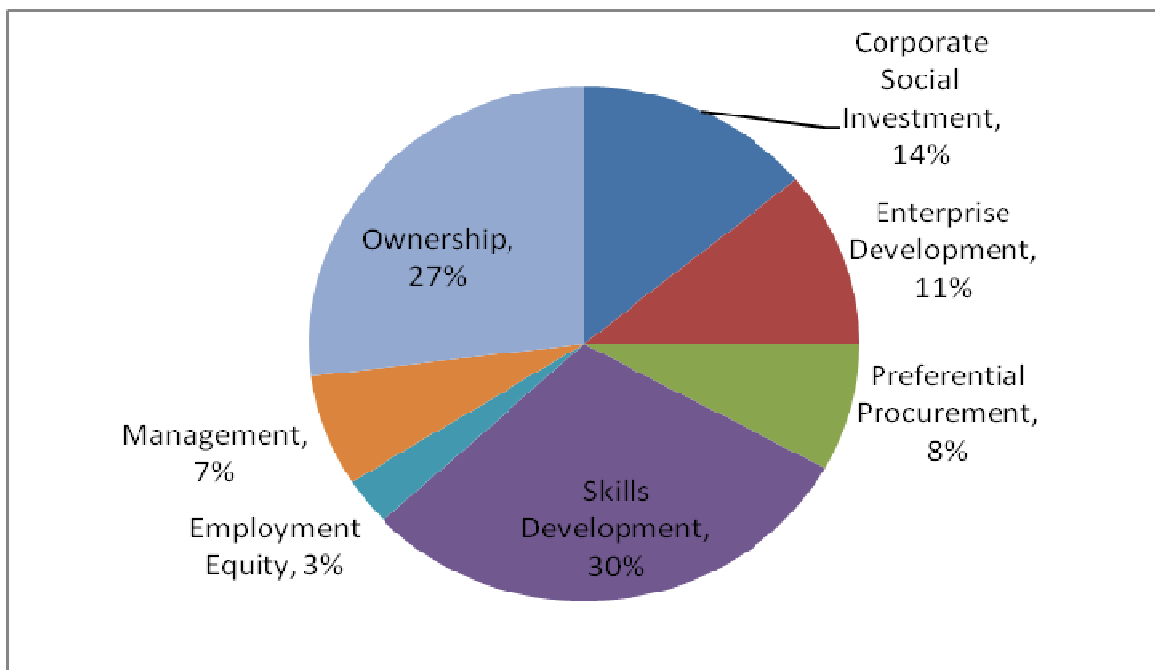


Figure 2.14.1c: Actual BEE Score Distribution (Source: Empowerdex, 2006)

It is evident that the lack of skilled HDSAs has contributed to the achievement of only 3% in employment equity compared with the proposal of 10%. On the other hand, skills development shows much greater improvement due mainly to the availability of in-house capacity to offer such training and the incentives provided in the form of refunding of skills development levies, once companies can show proof of training. The mining industry is not an exception to this trend since it is more of a national issue.

2.14.3 The Mining Charter

The Mining Charter was gazetted under the MPRDA with the vision of achieving a globally competitive mining industry for the benefit of all South Africans and to “create an industry that will proudly reflect the promise of a non-racial South Africa”.

The objectives of the Charter are to:

- Promote equitable access to the mineral resources for all the people of South Africa
- Substantially and meaningfully expand opportunities for HDSAs to enter the mining and minerals industry and to benefit from the exploitation of the nation’s mineral resources
- Utilise and expand on the existing skills base of HDSAs
- Promote employment and advance the social and economic welfare of mining communities and the major labour-sending areas
- Promote beneficiation of South Africa’s mineral commodities

The key outcomes that are set out in a scorecard are the following:

- Achieving HDSA participation of 15% in ownership and joint ventures within five years (by 2009) and 26% within ten years (by 2014)
- Achieving 40% HDSA participation in management within five years (by 2009)

- Achieving 10% of women in mining within five years (by 2009)
- Non-discrimination against migrant labour
- Improvement in the standard of housing conditions for lower level employees
- Commitment to preferential procurement from BEE companies
- Human resources development, with the focus on improving the literacy levels of mine workers
- Making a meaningful contribution to the communities in which the mines operate
- Improvement in the level of beneficiation of mineral commodities

The scorecard is designed to facilitate the application of the Charter in terms of the MPRDA requirements for the conversion of “old order mining rights” into new rights within a five-year period (by 2009), but recognising the full ten-year period (by 2014).

Compliance with the requirements of the MPDRA and Mining Charter is therefore a prerequisite for securing and maintaining mining and mineral rights, as well as conducting mining operations in South Africa.

The enactment of the MPRDA has therefore to some extent created an environment that will contribute to significant merger and acquisition activity in the South African mining industry.

2.15 DISCUSSION ON THE SOUTH AFRICAN MINING INDUSTRY

In summary, the South African mining industry is endowed with huge and vast mineral resources, good infrastructure, sound economic policies and a stable political regime. This has created the framework for world-class mineral production in some key commodities such as platinum, gold, ferrochrome and aluminosilicates.

There are, however, significant challenges in the areas of skills, clarity and investor confidence in the administration of the MPRDA, especially regarding the issue of new order licences and the renewal of old order licences. Access to adequate electricity is a major concern, with major capital investments currently under way to increase generation capacity by Eskom. Rail and port facilities are also bottlenecks affecting coal and iron ore exports and they need urgent attention. In addition, social challenges such as crime and unemployment constitute significant challenges to capital investment.

The introduction of the MDPRA has created significant opportunities and removed barriers to entry by HDSAs in terms of acquisition and funding in mining deals. The challenge, however, lies in how to sustain these deals, especially in view of the current global credit crunch. The issue of value assessment in mergers and acquisitions in the South African mining industry is therefore highly relevant to ensure that the vision of the Mining Charter is achieved.

2.16 MERGERS AND ACQUISITIONS IN THE SOUTH AFRICAN MINING INDUSTRY

There has been a major improvement in mergers and acquisitions in South Africa since 1995, due to the removal of economic sanctions and the inclusion of South Africa in the global economic framework. Following the enactment of the BEE Act in 2003, there was a marked increase in BEE deals. Figure 2.16a and Figure 2.16b show the total merger and acquisition value and the BEE contribution between 1995 and 2007. These figures were obtained from the Department of Trade and Industry report entitled *South Africa: Geared For Growth 2008* (DTI, 2008).

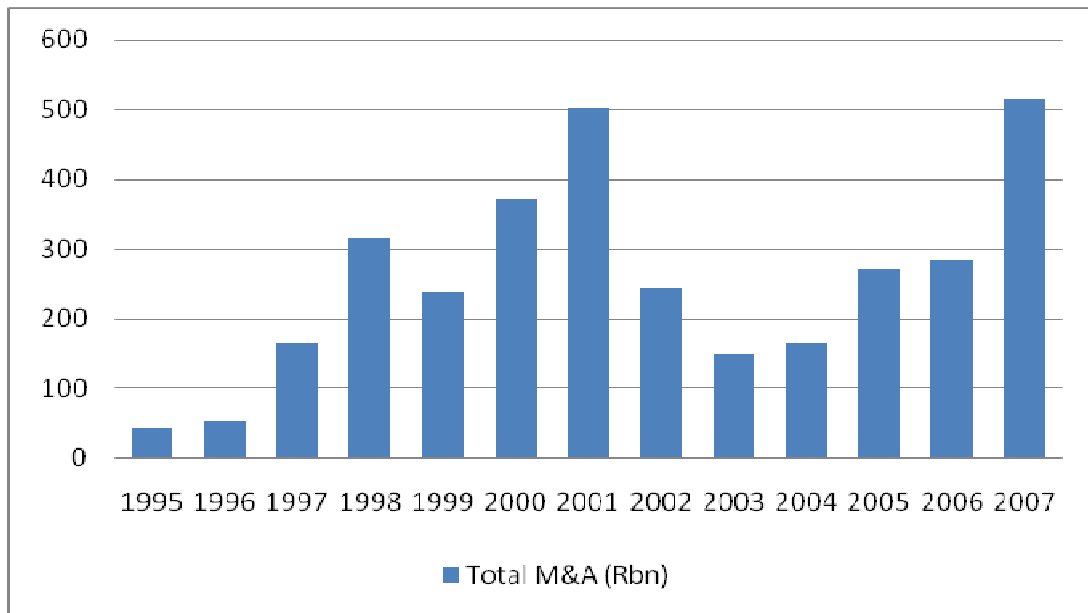


Figure 2.16a: Total Merger and Acquisition Value in South Africa (Source: DTI, 2008)

There appear to be two waves of merger and acquisition activity in South Africa, one from 1995 to 2001, which might be due to the post-apartheid inclusion of South Africa into the global economic framework, and another from 2002 to 2007, which is most likely a result of BEE implementation and favourable commodity prices in the mining industry.

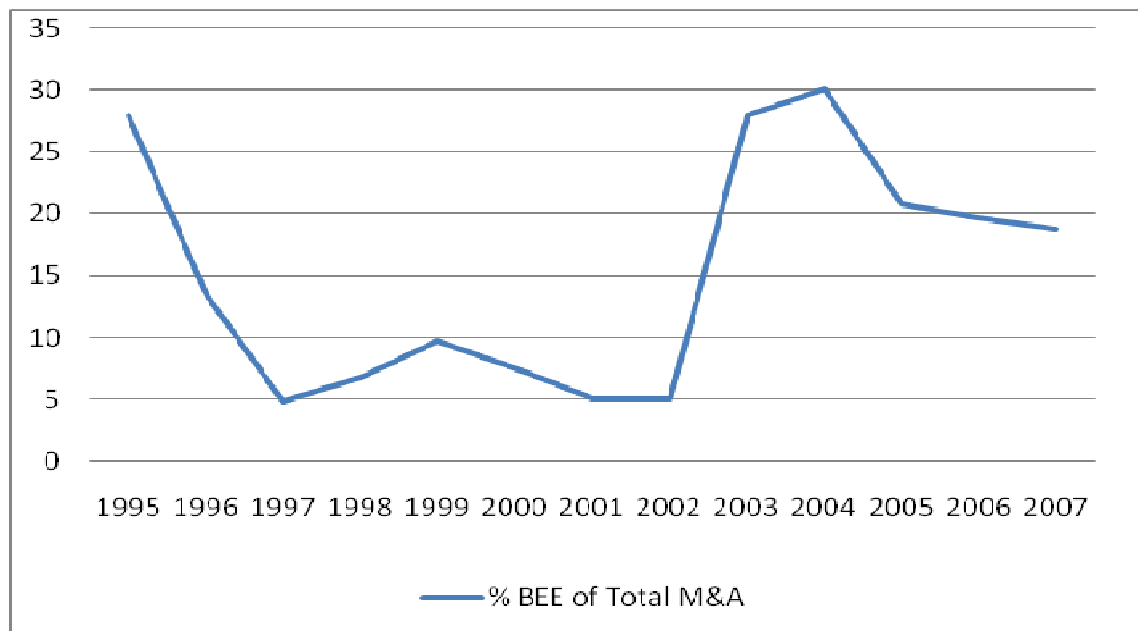


Figure 2.16b: BEE Contribution to Mergers and Acquisitions in SA (Source: DTI, 2008)

The period after 2002 has shown a remarkable increase in BEE deals and the mining sector has made a significant contribution to these deals.

An Empowerdex report entitled *Interim Progress Report and Sector Comparison* published in 2006 indicates that the resources sector average, which comprised 34 JSE-listed mining companies, achieved a 38.8% BEE score, compared with the JSE average of 49.34%, and the mining score of 38.8% was made up of the following proportions:

- (a) Ownership score of 13.2%
- (b) Management score of 2.81%
- (c) Employment equity score of 1.01%
- (d) Skills development score of 11.4%
- (e) Preferential procurement score of 2.75%
- (f) Enterprise development score of 1.49%
- (g) Residual element score of 5.89%

This reveals that ownership is one of the key elements that the mining companies in South Africa are using to achieve their BEE score, and it would therefore impact on the merger and acquisition activity structure of the industry. Technically, the BEE score does not apply to the mining industry, but it allows for comparison with other sectors.

Further analysis of the report, regarding the type of BEE ownership transaction, reveals that the most of the transactions were made to secure ownership between the 10–25% and 25–50% categories, reflecting the Mining Charter scorecard requirements of 15% by 2009 and 26% by 2012. Most BEE deals in the mining sector are therefore likely to fall within those ranges, as shown in Figure 2.16c. Technically, the original intention of the Mining Charter was ownership.

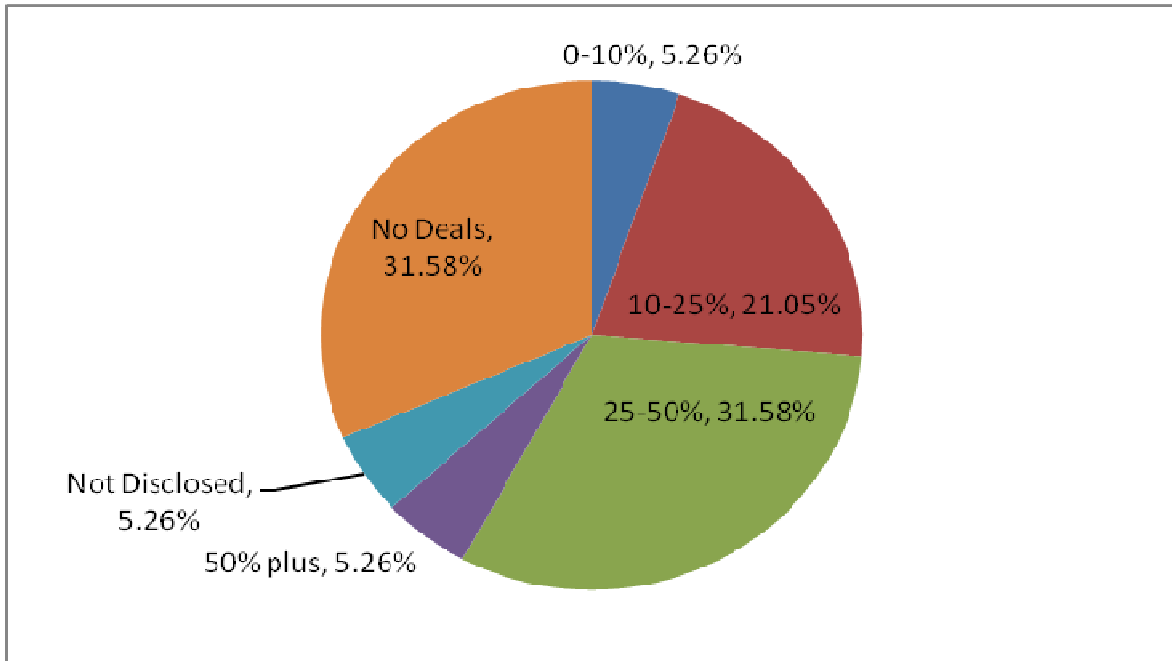


Figure 2.16c: Distribution of Ownership Types in Mining BEE Deals (Source: Empowerdex, 2006)

Further analysis indicates that the BEE deals in the resources sector involved sale of equity and sale of assets in similar proportions to those depicted in Figure 2.16d. This means that some mining companies have opted to achieve their ownership score through direct equity participation and others have sold out mining assets, while yet others might also have used a combination of both. Typical examples of asset sale would be BHP Billiton’s and Anglo American Plc’s sale of coal assets to Eyesizwe Coal and Anglo Platinum’s sale of the Booyendal platinum asset to Mvelaphanda Resources. Where mining assets are sold, it is expected by the MPRDA that the seller should provide technical expertise, guidance and, in some cases, product beneficiation and marketing capacity to enable this BEE acquirer to become self-sustaining in future.

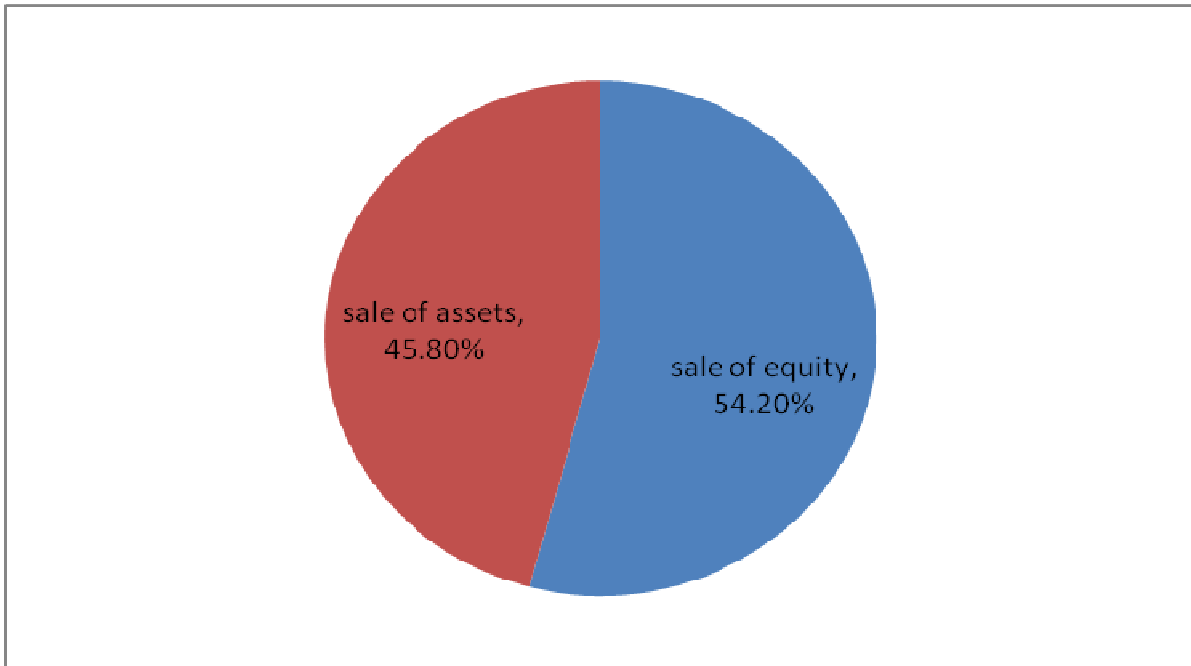


Figure 2.16d: Types of BEE Ownership Deal in Mining in South Africa (Source: Empowerdex, 2006)

Corporate restructuring of the South African mining industry is an ongoing exercise. Mining houses continue to transform into focused mining companies by typically shedding their non-core industrial holdings. This transformation includes the consolidation of ownership through minority buy-outs, the separation of a large diversified company into two or more specialised companies, the transfer of primary listings (and corporate head offices) offshore, as well as the purchase of South African mining assets by foreign companies.

New BEE mining giants, such as Exxaro Resources, Mvelaphanda Resources and African Rainbow Minerals (ARM), are playing an active role in mining. The Nedcor Securities Junior Mining and Exploration (NSJME) Index is also an investment vehicle aimed at providing greater visibility for South Africa's junior mining and exploration sector.

2.17 MERGERS AND ACQUISITION TRENDS IN SOUTH AFRICAN MINING INDUSTRY

The period between 2003 and 2008 has been used for this study due to the availability of reliable data. The period after 2003 also shows a lot of merger and

acquisition activity, partly due to the enactment of the MPRDA. The database used for this merger and acquisition activity analysis was privately sourced from Dealogic, and is therefore not available in the public domain.

During the period from 2003 to 2008, about 130 deals took place in various commodities – mostly in platinum, gold and coal. In terms of deal volume, platinum accounted for 27%, coal 22% and gold 22%. Deals averaged about 15–20 per year between 2003 and 2005, and about 20–30 per year between 2006 and 2008. The increase in deal activity from 2006 could be attributed to record commodity prices in gold, coal and platinum, which enhanced the financial position of most mining companies and also made entry easier for many junior mining companies.

A deal summary, in terms of total deals per year, number of deals per year and average deal value is shown in Table 2.17, Figure 2.17a and Figure 2.17b.

Table 2.17: Summary of South African Mining Deals

Year	Deal Volume	Deal Value (US\$ m)	Average Deal Value (US\$ m)
2003	18	5,289.30	293.85
2004	15	2,070.88	138.06
2005	20	1,543.27	77.16
2006	21	5,660.51	269.55
2007	30	4,974.51	165.82
2008	25	2,346.44	93.86

Source: Dealogic

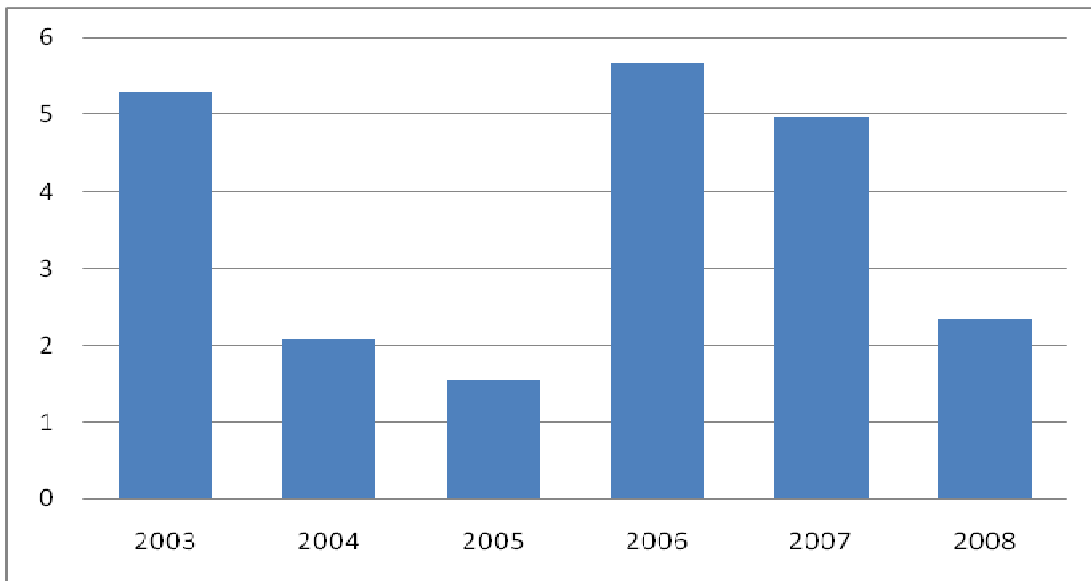


Figure 2.17a: Total Annual Deal Value (US\$ billion) (Source: Dealogic)

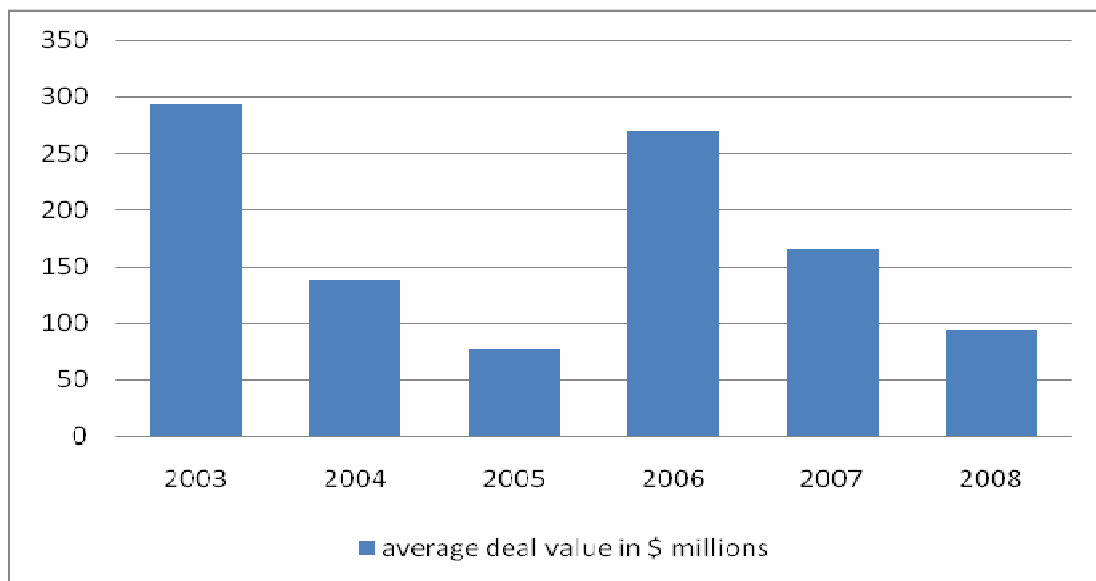


Figure 2.17b: Average Annual Deal value (US\$ million) (Source: Dealogic)

The total deal value and average deal value in 2003 and 2006 are extremely high. This is due to the merger between Harmony Gold and ARMGold and their subsequent acquisition by Anglovaal Mining which resulted in a series of transactions between the three companies all totalling about US\$2.29 billion, as well as the US\$1.54 billion merger between Ashanti Goldfields and AngloGold Ltd in 2003.

The 2006 figure is also influenced by the US\$1.53 billion acquisition of a stake in Barrick Gold South Africa (South Deep mine) by GoldFields Ltd and a US\$1.39 billion stake in Impala Platinum by Royal Bafokeng.

Gold, platinum and coal accounted for most of the deals, in both volume and value. These are commodities with huge resource bases and they have historically achieved favourable prices that have sustained and grown that sector of the mining industry. Figure 2.17c shows the percentage contribution of various commodities to the total number of mining deals from 2003 to 2008.

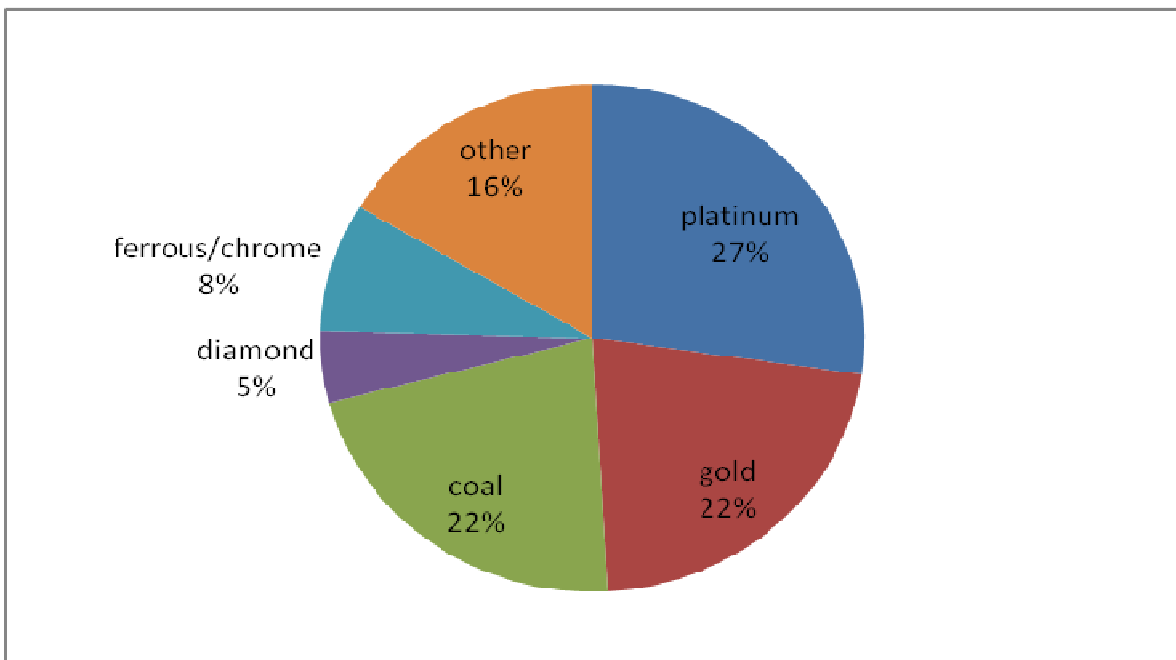


Figure 2.17c: Commodities Contribution to Total Number of Deals (Source: Dealogic)

Figure 2.17d illustrates the contribution of each commodity to the total number of deals annually. The deal contribution per commodity in terms of deal value also shows a similar trend. Gold, platinum and coal are therefore the key contributors to increased merger and acquisition activity in the South African mining industry.

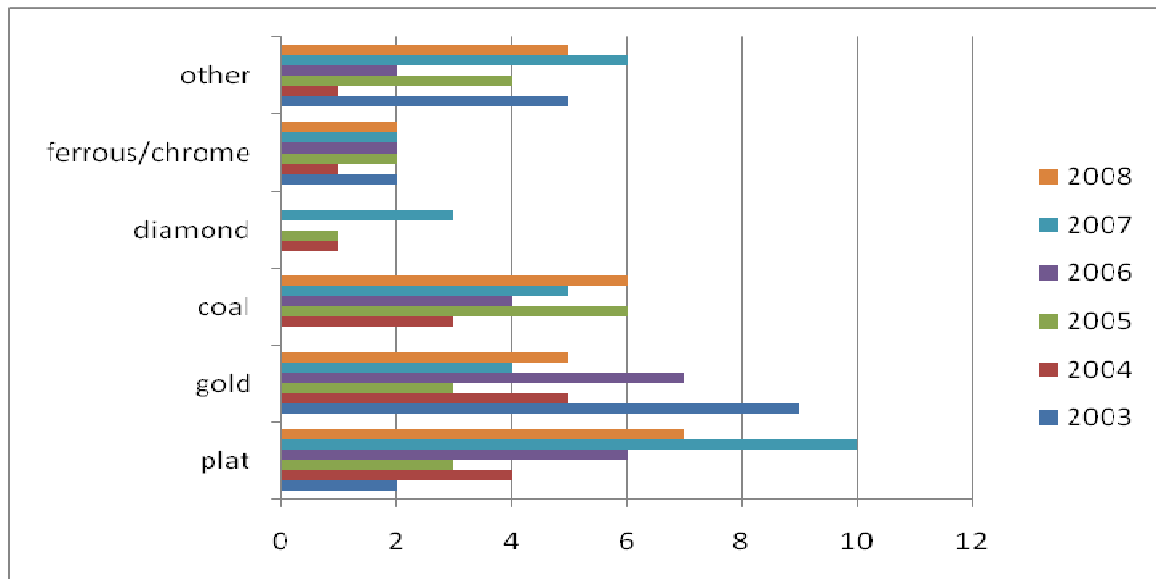


Figure 2.17d: Number of Deals per Commodity (Source: Dealogic)

Some of the major merger and acquisition activities that have taken place in the South African mining industry are listed below, with announcement dates:

- (a) The merger between Billiton and BHP in 2001, which led to the creation of BHP Billiton, the largest mining company in the world by market capital. This merger does not, however, form part of the study, due to difficulty in obtaining information on all mining deals prior to 2003.
- (b) The merger between AngloGold and Ashanti Goldfields in 2003 to form AngloGold Ashanti.
- (c) The merger between Harmony Gold and ARMGold, and the subsequent acquisition of assets in Avmin to create the current Harmony Gold and African Rainbow Minerals in 2003.
- (d) The unbundling of Kumba Resources to form Kumba Iron Ore and the subsequent mergers of its coal, base metal and mineral sands assets with Eyesizwe to form Exxaro Resources in 2005.
- (e) Acquisition activities involving African Rainbow Minerals, Mvelaphanda Resources, Merafe Resources, Annoraq Resources, etc.

The significant mining deals in 2006 involved the unbundling of Kumba Resources to form Kumba Iron Ore and the merger of its coal, base metal and mineral sands assets with Eyesizwe Coal to form Exxaro Resources, and GoldFields's acquisition of 50% of South Deep Mine for R18 billion from Barrick Gold. The largest mining BEE transaction involved Royal Bafokeng's conversion of its lease royalty stream into a 13.4% holding in Impala Platinum at R12.1 billion.

Some of the significant mining deals in 2007 involved the divestment by Anglo American Plc of Mondi Plc worth R35.8 billion, and of AngloGold Ashanti worth R20.2 billion, Sasol Ltd and BEE Consortium worth R17.9 billion and Uranium One Inc and Energy Metals Corporation worth R11 billion.

According to the *Mining Deals 2008* report by PricewaterhouseCoopers, top 2008 mining deals in South Africa included Northam Platinum Ltd and Impala Platinum valued at US\$2.5 billion, Northam Platinum and Existing Shareholders valued at US\$1.2 billion, Richards Bay Minerals and Imbewu Consortium valued at US\$0.7 billion, Lebowa Platinum and Annoraq Resources valued at R0.5 billion, Randfontein Estates Limited and Pamodzi Investment Holdings valued at US\$0.25 billion, and Assore Ltd and Shanduka Resources valued at US\$0.24 billion.

2.18 DISCUSSION ON MINING MERGERS AND ACQUISITIONS IN SOUTH AFRICA

Historically, gold was the most viable commodity in the South African mining environment and accounted for a very high proportion of global gold production and job creation locally. In 2000, there was a surge in platinum prices, making platinum one of the most viable commodities until 2008. In 2007, coal, iron ore and manganese prices were also very high compared with historical numbers.

This explains why most of the mining deals occurred in these commodities as investors (including some BEE partners) saw the opportunity for value enhancement in these commodities, but they were often based on an optimistic price outlook for the future.

Deal values were very high in 2003 and 2006, mainly because of the Harmony/ARMgold/Avmin transactions and the AngloGold and Ashanti GoldFields

deal in 2003. The 2006 figure was due to the unbundling of Kumba Resources and the merger of the coal, base metals and mineral sands assets with Eyesizwe Coal to form Exxaro Resources. This also explains why the average deal values in these years are about twice to thrice those of the other years.

These deals, therefore, had a very significant impact on the South African mining industry and, considering the fact that two of them were BEE-related and the other was cross-border, the outcomes of their value assessments are fairly indicative of what one can expect in the South African mining industry and also offer significant lessons for future deals. They have therefore been chosen as the key deals for value assessment in this study.

Tables 2.18a to 2.18f list the top five merger and acquisition activities by value in each year between 2003 and 2008. The dates used are announcement dates, and may differ from the actual deal conclusion dates.

Table 2.18a: Top Five Deals in 2008 (Source: Dealogic)

Date	Target	Acquirer	Value (US\$ m)
11 Dec	Richards Bay Minerals	Imbewu Consortium	490.89
25 Jun	Oresteel Investments (Pty) Ltd	Sumitomo Corp	278.20
25 Jun	Assore Ltd (10.4%)	Standard Bank Group Ltd	276.96
28 Mar	Lebowa Platinum Mines Ltd (51%)	Anooraq Resources Corp	323.74
10 Jan	Randfontein Estates Ltd	Pamodzi Investment Holdings Ltd	252.00

Table 2.18b: Top Five Deals in 2007 (Source: Dealogic)

Date	Target	Acquirer	Value (US\$ m)
7 Aug	Eland Platinum Holdings Ltd	Xstrata Plc	1,056.04
5 Sep	Mining Asset (Booysendal Project)	Northam Platinum	761.62
5 Sep	Northam Platinum Ltd (22.4%)	Mvelaphanda Resources Ltd	582.85
20 Nov	Kalagadi Manganese (Pty) Ltd (50%)	ArcelorMittal SA	432.50
5 Feb	Mining Assets (Namakwa Sands)	Exxaro Resources Ltd	281.48

Table 2.18c: Top Five Deals in 2006 (Source: Dealogic)

Date	Target	Acquirer	Value (US\$ m)
11 Sep	Barrick Gold South Africa (Pty) Ltd	GoldFields Ltd	1,525.00
28 Sep	Impala Platinum Holdings Ltd (12.11%)	Royal Bafokeng Nation	1,388.12
11 Sep	Western Areas Ltd (82%)	GoldFields Ltd	753.78
15 Feb	Barplats Investments Ltd (69%)	Eastern Platinum Ltd	377.00
9 Mar	Western Areas Ltd (29.2%)	Harmony Gold Mining Co Ltd	294.25

Table 2.18d: Top Five Deals in 2005 (Source: Dealogic)

Date	Target	Acquirer	Value (US\$ m)
9 Nov	De Beers Consolidated Mines Ltd (26%)	Ponahalo Holdings Ltd	239.63



14 Oct	Eyesizwe Coal (Pty) Ltd	BEE Holding Company	239.632
14 Oct	Kumba Iron Ore	Existing Shareholders	
20 Apr	African Rainbow Minerals Ltd	ARM BBE Trust	134.00
21 Dec	Mvelaphanda Resources Ltd (23%)	Incwala Resources (Pty) Ltd	119.28

Table 2.18e: Top Five Deals in 2004 (Source: Dealogic)

Date	Target	Acquirer	Value (US\$ m)
29 Mar	GoldFields Ltd (20%)	Norilsk Nickel OAO	1,244.91
9 Dec	JCI Ltd (Mining Assets & Rights)	Orlyfunt Holdings (Pty) Ltd	238.57
10 May	Mvelaphanda Holdings (Pty) Ltd	Rebserve Holdings Ltd	218.73
17 Jun	AngloGold Ashanti Ltd (1.02%)	Anglo American Plc	80.22
9 Jun	Western Areas Ltd	Inkwenkwezi Gold Mining Consortium	78.00

Table 2.18f: Top Five Deals in 2003 (Source: Dealogic)

Date	Target	Acquirer	Value (US\$ m)
4 Aug	Ashanti Goldfields Co Ltd	AngloGold Ltd	1,538.77
2 May	African Rainbow Minerals	Harmony Gold Mining Co Ltd	988.61
10 Jun	GoldFields Ltd (Mining Assets)	Mvelaphanda Resources Ltd	520.63
3 Nov	Kumba Resources Ltd (31.6%)	Anglo American Plc	505.10
13 Nov	Harmony Gold Mining Co Ltd (13.6%)	Anglovaal Mining Ltd	500.65

2.19 VALUE CREATION ASSESSMENT CRITERIA FOR MERGERS AND ACQUISITIONS

Despite the huge financial investment involved in mergers and acquisitions, the challenges always lie in post-merger/acquisition assessment to determine whether these deals created value or not.

This will require an understanding of the methods, approaches and criteria that have been used in the past for assessing value creation, examining their applicability and limitations, and formulating a guideline to assist in future deal assessments.

Do mergers and acquisitions create value?

Several authors have reported on the subject of whether mergers and acquisitions do create value for the shareholders of the acquiring company. A brief summary of these reports is given below.

According to DePamphilis (2008) the following is a summary of work covered by other authors on mergers and acquisitions:

- Acquirers tend to overpay for growth firms (excessive premium).
- Shareholders profit by selling around announcement dates.
- Acquirers with experience in mergers and acquisitions tend to improve the long-term performance of combined companies.
- The method of payment affects long-term returns (cash deals are mostly cheaper than stock).

Table 2.19a shows the effects of the announcement of bids on shareholder returns for target firms and acquiring firms.

Table 2.19a: Shareholder Returns around Announcement Dates

Mergers Events	Impact on Target	Impact on Acquirer
1960s	20%	0%
1970s	20%	0.5%
1980s	20%	1%
1990s	20%	0.7%
1980s and 1990s	20%	0.2%
Acquisition Events	Impact on Target	Impact on Acquirer
1960s	22%	4%
1970s	35%	2.4%
1980s	38%	-1.3%
1990s	52%	Not applicable
1962–2001	30%	0%
Merger & Acquisition	Impact on Target	Impact on Acquirer
1980s to 1990s	24%	-0.7%

(Source: DePamphilis, 2008)

Although some post-merger performance studies indicate that most companies that have merged or acquired tend to underperform relative to the industry average, other such studies reveal the contrary. However, there is also diversity of opinion on the matter, which may be the result of *sample used*, *time period* and *methodology employed*. Table 2.19b is an example of the findings of some post-merger performance studies. These findings are based on the use of accounting studies or other performance measures such as cash flow and operating profit during the period of three to five years following the closing of the transaction.

Table 2.19b: Post-merger Performance Assessment within 3–5 Years

Underperform industry average	Approximately industry average	Overperform industry average
McKinsey & Company (1990)	Mueller (1985)	Healy, Palepu & Ruback (1992)
Mangenheim & Mueller (1988)	Ravenscraft & Sherer (1987 & 1988)	Kaplan & Weisbach (1992)

Franks, Harris & Titman (1991)	Bradely & Jarrel (1988)	Rau & Vermaelen (1992)
Agrawal, Jaffe & Mandelker (1992)	Ghosh (2001)	Carline, Linn & Yadav (2001)
Sirower (1997)		
Gregory (1997)		
Loughran & Vijn (1997)		
Rau & Vermaelen (1998)		
Agrawal & Jaffe (1999)		
Black, Carnes & Jandik (2000)		
Deogun & Lipin (2000)		
Sanford Bernstein & Company (2000)		

(Source: DePamphilis, 2008)

According to Bruner (2004), we can define three possible outcomes for mergers and acquisitions:

- **Value conserved:** Investment returns equal required returns. The investor got the returns that were expected prior to the deal.
- **Value created:** Investment returns exceed the required returns. The investor got more than what was expected prior to the deal.
- **Value destroyed:** Investment returns were less than required returns. The investor got less than what was expected prior to the deal.

The issue here, though, is: Can the value expected by the investors be considered a fair expectation relative to what the market expects?

Bruner (2004) further explains that merger and acquisition profitability should be measured against a benchmark, in which case three classes or tests of profitability can be applied, as follows (Table 2.19c):

- Weak form, which compares share price movements before and after the deal

- Semi-strong form, which compares the performance of the combined companies' share against an industry benchmark
- Strong form, which compares the return on the shares of the merged company with what it would have been separately without a merger.

Table 2.19c: Class of Tests of Merger and Acquisition Profitability

Test	Structure: M&A Pays If	Description and Comments
Weak form	$P_{\text{after}} > P_{\text{before}}$	Does firm's share price (P) improve compared with before and after the deal? This comparison is widely used by consultants and journalists.
Semi-strong form	$\%R_{\text{m\&a firm}} > \%R_{\text{benchmark}}$	Does the return (R) on the firm's shares exceed that of a benchmark? This is widely used by academic researchers but depends on the integrity of the benchmark selection and on large samples for observation.
Strong form	$\%R_{\text{firm with m\&a}} > \%R_{\text{firm without m\&a}}$	Does the return (R) on the firm's shares exceed what it would have been without the deal? This is the 'gold standard' test but it is unobservable.

(Source: Bruner, 2004)

Bruner (2004) further suggests that there are four research approaches to determining the profitability of mergers and acquisitions. These four approaches are as follows:

- Event studies, which examine the abnormal returns to shareholders in the period surrounding the announcement of a transaction.

- (b) Accounting studies, which examine reported financial statements before and after the deal, and consider accounting measures such as net income, return on equity or assets, earnings per share, leverage and liquidity of the firm
- (c) Survey of executives, which considers the views of managers on whether an acquisition did create value or not
- (d) Clinical studies, which focus on an in-depth analysis of a particular transaction or a few transactions

Bruner (2004), after considering the work of other authors on the analysis of previous deals, reports the following:

- (a) Target firms enjoy returns that are significantly and materially positive based on the evidence from event studies.
- (b) Market-based returns analysis gives mixed conclusions on whether value was created or not.
- (c) The combined company returns are positive, which indicates that acquirers also benefit.

Dobbs, Goedhart and Suonio (2006) report that the boom of 2003 to 2006 created more value than the previous boom (1997 to 2000), and that acquirers were getting more out of it. The two key measures that were used to arrive at this conclusion are the deal value added (DVA) and the proportion of companies overpaying (POP).

This research was based on 1 000 global mergers and acquisitions from 1997 to 2006, comparing the share price two days before and two days after a deal was announced in order to assess the financial market's initial reaction to the deals. It also confirms the outcome of other research work indicating that there is a positive correlation between the so-called 'announcement effect' and long-term value creation.

First, the DVA tracks the financial market's assessment of how much total value a deal will create. It measures the aggregate value change at the time of announcement across both companies as a percentage of a transaction's value (adjusted for market movements).

The second index, the POP, examines the success of acquirers in capturing value from deals by measuring the proportion of all transactions in which the initial share price reaction for the acquirer was negative, indicating that the acquirer overpaid (adjusted for market movements). In other words, the POP represents the proportion that the market perceives acquirers to have transferred to the sellers to be more than 100% of the value created in the deal.

The study concludes that:

- (a) The average DVA has been 6.1%, trending from 2.1% in 2003 to 10.6% in 2006.
- (b) The POP decreased from 63% in 2003 to 56% in 2006, indicating that average deal premiums are reducing considerably and acquirers are keeping more of the value.

Figure 2.19a is the DVA from 1997 to 2006, and Figure 2.19.b is the POP from 1997 to 2006.

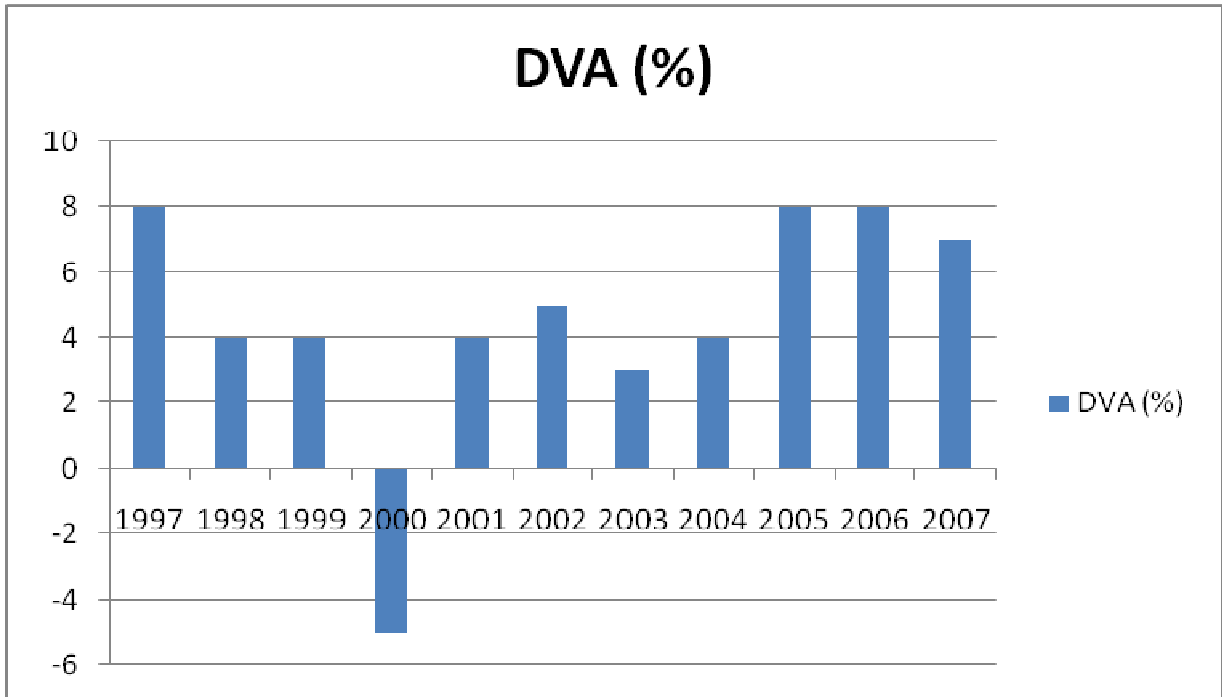


Figure 2.19a: Deal Value Add (DVA) from 1997 to 2006 (Source: Dobbs, Goedhart & Suonio, 2006)

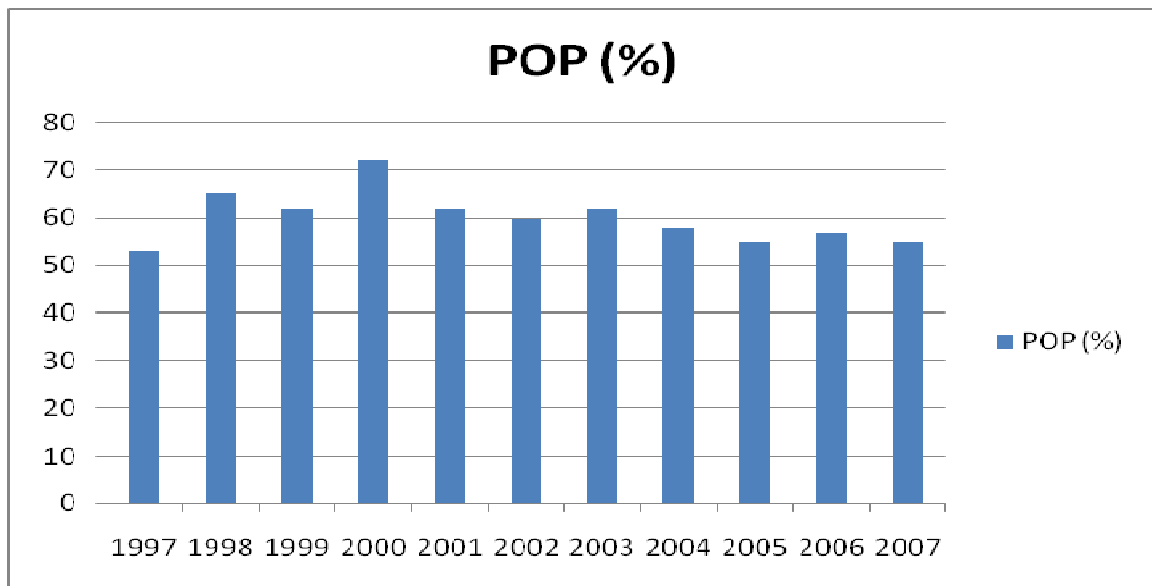


Figure 2.19b: Proportion Overpaid (POP) from 1997 to 2007 (Source: Dobbs, Goedhart & Suonio, 2006)

Based on the information discussed so far and considering the work of various authors on the issue of whether mergers and acquisitions add value or not, the following is a summary of key learnings:

- There is a pre-merger period and a post-merger period for measuring performance.
- The pre-merger period performance metrics include announcement effect indicators such as the DVA and POP.
- Acquirers tend to overpay (excessive premium), leading to significant benefit to the target shareholders.
- Shareholders profit by selling around announcement dates.
- Performance can be measured by event studies around the period of the announcement, or by accounting studies in which the financial statements of the companies can be compared before and after the merger, through clinical studies and interviews with top executives.
- The post-merger performance, based on accounting metrics, can compare the returns achieved and what was initially expected against an appropriate industry benchmark or judge them against what the individual companies' performance would have been without a merger.
- One of the accounting metrics considered is return to shareholders or total return to shareholders (TRS), which involves earnings per share and dividends, net income, return on equity or assets, and liquidity of the firm.
- The method employed in analysis, the period used and the type of sample used (whether global or industry) may affect the outcome of the study.
- The timing or acceptable period for post-merger and acquisition preliminary value assessment should be at least three to five years after the deal.
- There can also be non-financial objectives in a merger and acquisition process which need to be taken into consideration. A typical example is mergers and acquisitions that have taken place in the South African mining industry as a result of compliance with the MPDRA. In such a situation, success can be related to achievement of the required ownership score,

which assists in securing mining licences to enable long-term sustainable value creation.

How is value determined?

It is very clear that different measures have been used in different periods (pre-merger and post-merger) to arrive at conclusions on whether mergers and acquisitions do create value. This could indicate that value lies in the eyes of the beholder and it is also possible that sometimes there could be a lack of focus on what companies are really looking for.

This section of the report will attempt to consider most of the views of various authors on what accounting metrics should be used in assessing the performance of an organisation and conclude with the selection of a critical few for further study. It is, however, important to understand that as much as each event is unique and we cannot therefore apply a standard measure to all deals, a comprehensive toolkit of measures, indicating the applicability and suitability of each measure, will assist as a guide to ensure a holistic and comprehensive approach to the value assessment of deals. The toolkit must include the minimum set of complementary measures or indicators that must be used to do an assessment of mergers and acquisitions. The metrics discussed previously for measuring value creation in mergers and acquisitions essentially entail two fundamental metrics: *stock market metrics* and *operating performance metrics*.

Goedhart, Koller and Wessels (2005) report that emotions can drive market behaviour in short-lived situations, but fundamentals will still rule in the long term. Hence stock market valuations over the short period of deal announcement may not reveal the true underlying value assigned to the acquiring and target company shares.

Dobbs and Koller (2005b) state that the most common approach in measuring a company's stock market performance is to calculate its *total returns to shareholders* (TRS) over time. This approach, according to the study, has severe limitations because over short periods (e.g. deal announcement periods or commodity price fluctuations) TRS embodies change in a company's future performance more than in its underlying performance and health. Companies that

consistently meet high performance standards can thus find it hard to deliver high TRS. In other words, the better a company performs, the more the market expects of it.

The article further indicates that companies can compensate for the shortcomings of TRS by employing complementary measures of stock performance. One of them is the *market value add (MVA)*, which is the difference between the market value of a company's debt and equity, and the amount of capital invested in it. A related metric is the *ratio of market value to capital*, which is the debt and market equity compared with the amount of capital invested. In this way the ratio of market value to capital and MVA will complement TRS by measuring different aspects of a company's performance.

TRS measures against market expectations and changes in them, whereas MVA and the ratio of market value to capital, by contrast, measure the financial market's view of a company's future performance relative to the capital invested in it. In this way we can assess expectations of its absolute performance.

Deelder, Goedhart and Agrawal (2008) are also of the opinion that TRS, like any other performance metric, is only instructive when users understand its components. Actual corporate performance, for example, is only part of the mix, as TRS is also heavily influenced by changes in investor expectations of future performance. The study refers to the traditional way of defining TRS as the sum of the percentage change in earnings plus the change in market expectations as being flawed because not all forms of earnings create value, but rather those that are rooted in activities that generate high returns on capital. It also points out the error in the traditional way of relating TRS to dividend payments because dividends do not create value. For example, if a company pays a higher dividend today to take on more debt, its future dividends are likely to be lower.

A better approach to understanding TRS is to break up the metric into four fundamental parts, namely a company's *operating performance*, its *stock market valuation* at the beginning of the measuring period, *changes in stock market expectations* about its performance and its *financial leverage*.

Dobbs, Nand and Rehm (2005) also discuss the potential flaw in using *earnings per share* (EPS) as a tool in valuing mergers and acquisitions. They state that assessing the impact of acquisitions on net income rather than on EPS corrects for the dilutive effect of acquisitions that involve the issue of shares. When a company uses cash to complete a transaction, its earnings are reduced by the loss of interest income on the cash used in the transaction, or by the loss of interest on the additional debt. When it uses additional shares to complete a transaction, EPS declines mathematically since earnings are spread across a greater number of shares. Dobbs et al. (2005) also discuss the impact of accounting rules on the way acquisitions get treated in terms of goodwill and amortisation, and the need for consistency to reflect the correct picture over time and across borders.

The study concludes that there is no perfect metric to prove whether a deal creates value or not, but that companies can explore the deal's impact on *economic profit*. Economic profit is defined as the invested capital multiplied by the difference between return on invested capital and the weighted average cost of capital.

In measuring long-term performance, Dobbs and Koller (2005a) believe that earnings per share and share price may not give a good indication of the state of a company because they do not necessarily indicate whether a company is fundamentally healthy, in the sense of being able to sustain its current performance and to build profitable businesses in the future. In other words, a falling share price may not be a sign of poor performance.

There is therefore a need for a comprehensive performance assessment that measures the value created and estimates its ability to create more. This will assist in maintaining a balance between short-term and long-term value creation. A company's historical growth and returns on capital can be measured directly, but the potential for future growth and returns must be inferred. To do so, it is necessary to devise metrics that gauge the longer term health of the company and also complement the metrics for short-term performance.

To give another illustration, a patient visiting a doctor may feel fine, but discovery of his or her high cholesterol levels could make it necessary to act now to prevent heart disease. Similarly, a company may show strong growth and returns on capital, but the health metrics are needed to determine whether that performance is sustainable.

A company's cash flow and, ultimately, its market value stem from its long-term growth in revenues and profits, and from *returns on invested capital* (ROIC) relative to its cost of capital. A *discounted cash flow* (DCF) analysis, based on projected performance and the use of the relevant health indicators, will therefore assist in understanding the link between shareholder value, as measured by stock markets, and the drivers of value.

According to Dobbs and Koller (2005a), organisational performance can be measured in three different categories, namely:

- (a) The economic value the company has created historically
- (b) Metrics that can gauge the company's ability to sustain that value created and manage the risks that might prevent it from doing so
- (c) Assessment of its capital market performance

Metrics such as ROIC, economic profit and growth that can be linked directly to value creation are therefore more meaningful than traditional metrics such as EPS.

Regarding the health metrics, it is important to know whether a company has the products, the people and the processes to continue creating value. Assessing the risk a company faces and the measures in place to mitigate them is also an important tool in measuring health. Diagnostics of organisational health will typically consider the skills and capability of the company, its ability to retain its employees and keep them satisfied, its culture and values, and the depth of management talent. These health metrics have to be quantifiable and should not be generalised, but adapted to suit each situation. Health metrics are also an important measure of post-merger integration.

2.20 DISCUSSION ON KEY VALUE DETERMINATION INDICATORS

There have been several discussions on various parameters that can be used to assess value in an organisation in general, and also in mergers and acquisitions. The key objectives in assessing value can be summarised as follows:

- Initial stock market reaction around announcement dates for mergers and acquisitions must be assessed, using the DVA and POP.
- The operating performance of the company can fundamentally be assessed by analysing financial activity using activity ratios (total asset turnover, fixed asset turnover, etc.) that measure the speed at which various accounts are converted into cash or sales, or by analysing the level of liquidity using liquidity ratios (net working capital, current ratio, etc.) to establish the firm's ability to satisfy its short-term obligations as they become due, or by analysing debt using debt ratios (debt equity ratio, interest cover, etc.) to establish the degree of indebtedness, or by analysing profitability using profitability ratios (profit margins, ROA, ROE, EPS, P/E ratio, etc.)
- Where capital is extensively employed, especially in major capital projects for growth and expansion, the measure of efficient capital utilisation for investment decisions can be determined using parameters such as MVA, economic profit, DCF, market-value-to-capital ratio and ROIC.

The fundamental problem with the DVA and POP is the level of accuracy based on the timing used. Market reaction to deal announcements can definitely add or destroy value whether the deal is successful or not. A typical example would be the reduction in the share price of Harmony and XStrata when their hostile bids for GoldFields and AngloAmerican respectively were announced. Even though the deals were called off at a later stage, the share price did not react by the same proportion it did when the deal was announced. This means that the announcement of a deal sends some signals to the market that could be perceived in various ways, depending on the acquirer's track record and the price offered for the target. However, when one considers share price reactions around

announcement dates, they often tend to recover or change when more information is made available to the public within a month or even more.

The market perception is also normally based on how much information is available concerning the internal operating dynamics within the organisation (which are often confidential) and on the organisation's past performance (which wrongfully assumes that past performance is a reliable indicator of future performance). The POP was negative during Harmony's hostile bid for Randfontein Estates in 2000, with the share price reacting unfavourably, especially in view of the huge premium the acquirer offered. Harmony, in its 2003 Annual Report, indicated that the acquisition had a payback of seven quarters. The main flaws in the DVA and POP are the timing applied and the fact that market predictions are not always right. Nonetheless, the market's perception can become a reality, which will reflect in the target's share price and investor ratings if the company does not perform to the contrary.

To comment on the three forms of profitability test, the weak form test is dependent on market sentiment, which can sometimes be driven by emotions in the short term, but normally depends on fundamentals in the long run. The semi-strong form test is useful, depending on the availability and appropriateness of the benchmark that is used. The strong form test, in practice, does not exist since it will be based on assumptions.

The use of a survey of executives and senior managers to assess the effect of the deal on value creation can be very helpful, as long as the feedback is constructive and unbiased. There is a danger of being both a player and a referee in such situations due to vested interest. Clinical studies are probably the most useful but that will depend on the willingness of the organisation to make available extensive information that sometimes may not be in the public domain. This can be a breach of corporate governance, especially with market-sensitive information, and can therefore only be done internally. The use of a consultant or expert can be a threat, especially when management also does not know what the outcome will be. Moreover, the expert knowledge required for such an exercise may not always exist in an organisation, and may explain to some extent why a post-merger assessment is not always done.

Considering the parameters that are used to measure the level of activity, liquidity, profitability, indebtedness and efficient capital utilisation – all these are useful and complementary and also have their applicability depending on the nature of the organisation. However, activity must generate profits, which in turn can be used to fund liquidity and debt, and in some case capital expansion. Capital projects must also in the long run generate returns and paybacks. Hence over a long period, all these parameters will manifest by impacting favourably or unfavourably on profits.

The key parameters that impact directly on shareholder value will therefore be centred on earnings, dividends, share price performance and the level of debt. This leads to various ratios, of which five are chosen for the purpose of this study, namely:

- (i) Earnings per share
- (ii) Dividends per share
- (iii) Return on equity
- (iv) Price/earnings ratio
- (v) Debt/equity ratio

This does not mean that other parameters are not important in value assessment. The ratios chosen will be complemented by non-financial factors based on the merger objectives, health indicators and BEE compliance in the South African mining industry, which includes the following:

- (a) Acquisition of skills
- (b) Acquisition of better operating processes and systems
- (c) Acquisition of quality resources
- (d) Compliance with the Mining Charter and subsequently obtaining a new order mining licence
- (e) Growth in production and output from existing assets and project pipeline

- (f) Operating efficiency in terms of cash unit cost
- (g) Access to markets

From the discussions on how value is determined, the following can be used as a guide:

Short-term metrics

Announcement effects (deal value add and proportion overpaid)

Medium to long-term metrics

Financial indicators (ROE, EPS, DPS, P/E, D/E ratios) and non-financial indicators (growth in production, skills, quality resources, operational efficiency, compliance with Mining Charter, markets, etc.)

Basis for comparison

The basis for comparison will be pre-merger and post-merger results, industry average performance (since it strips out the effect of change in external factors such as commodity price, exchange rates, etc.) and other appropriate benchmarks.

Period of measurement

Announcement effects should be two days prior to the deal and two days after the deal, and the medium-term assessment should be from three to five years and an additional five years for the long term.

Deal valuation

This will be a combination of all these parameters, benchmarked appropriately over a three-to-five-year period and with projections made for the next five years.

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CHAPTER 3 RESULTS

3.1 INTRODUCTION

In the previous chapter, which dealt with the literature review, the parameters that can be used to assess value creation in deals were discussed in detail. In order to select a few appropriate parameters that will be suitable to the South African mining industry, interviews were conducted with some of the stakeholders who are normally involved in such deals. These included chief executive officers of mining companies, investment bankers, consultants and BEE partners.

The interviews were structured around a discussion document and a guideline questionnaire, which are shown in Appendix A and Appendix B. The objective of the interviews was to gain opinions on the parameters that were selected as a result of the discussion of the literature review, and also to obtain some suggestions for consideration. This was to ensure that the final deal value assessment criteria that are used are relevant and comprehensive.

The outcome of the interviews may be summarised as follows:

- (a) The Du Pont model, which is used ultimately to calculate the return on equity, is perhaps the most important measure (Mr Mark Hayward-Butt, Investment Banking). In Mr Hayward-Butt's opinion, everything cascades finally to net profits over the long run which, expressed as a ratio to shareholders equity, gives a good measure of shareholder returns (return on equity).
- (b) In acquisitions, the percentage stake is very important. In deals where a stake of 50% or more is acquired, the acquirer is able to influence the performance of the asset acquired. In instances where the stake may be relatively lower, especially at around 26% to comply with legislation, it may be difficult to influence the decision-making processes, depending on how fragmented the shareholder base is. This comment was made on the view that Anooraq gaining management control of Lebowa could extract more value for its shareholders (Mr Philip Kotze, CEO of Anooraq). It must also

be noted that 26% was enough to make Vulisango the largest shareholder in Simmer and Jack, because the shareholder base was very fragmented.

- (c) Deals that are made to achieve BEE compliance often bring in some form of cash injection as the BEE partner has to purchase a stake. In some instances, future earnings and dividends are used to repay loans. Hence the financial side of the deal is very critical for sustainability because, despite the intention of achieving equity in wealth ownership, there is often debt to be paid by BEE partners
- (d) The acquisition of a stake in a BEE deal should normally not have much effect on the day-to-day running of operations and overall business strategy. In fact, they should reinforce company performance because of the additional sets of skills the BEE partners often bring.
- (e) Hence value assessment should be the same for all deals, using financial and non-financial metrics. This is because the intent of the BEE partners is to enjoy sustainable value creation that allows them to see a return on the financial investment they made in acquiring part of the company. This should not be different from an ordinary shareholder perspective and hence the metrics that reflect shareholder profitability would be suggested.
- (f) There are often pre-deal expectations set out before any merger or acquisition because good corporate governance requires that sound value creation propositions be used to back these deals for shareholders to make informed decisions.
- (g) Post-deal value assessments using the same parameters, however, often do not take place. In some cases, deal objectives change as situations change in the post-deal environment.
- (h) The parameters that have been used in the merger discussions with industry players (which are a summary of relevant and applicable issues from the literature survey) are regarded as fairly comprehensive and adequate, though unique situations will require some modification.

- (i) The study will be of enormous benefit to the mining industry at large in assessing past deals and in selecting future deals.

The points discussed under (c), (d), (e), (f) and (g) were affirmed by Messrs Bernard Swanepoel, Fani Titi and Sipho Nkosi. The comments noted under (h) and (f) summarise their views on the purpose and outcome of the study.

Following the outcome of the interviews and the findings of the literature review, the selection of an appropriate value adding criteria has to take the following into consideration:

- (a) The focus is on value creation for shareholders (it does not imply, though, that the concerns of other stakeholders are not important. In fact, they are vital for sustainable shareholder wealth creation. However, for the purpose of this study, value creation was confined to shareholders.
- (b) The sustainability of wealth creation depends on the health metrics, which are often non-financial but very critical for the business.
- (c) The financial metrics are often a consequence of how the non-financial metrics are managed, and are lagging indicators. However, if the non-financial metrics are well managed, then there should be sustainable improved financial performance, compared with past and industry performance on these metrics.
- (d) The key issues that impact directly on shareholders include earnings, dividends, debt and share price performance. This is the ultimate measure of risk and return for shareholders, and hence the financial parameters must focus on these issues.

The deal assessment criteria that were used therefore took all these factors into consideration to arrive at suitable and relevant parameters.

These parameters can be summarised as follows:

- (a) Parameters due to deal objectives, which are set by the parties involved in the merger or by the acquirer in the case of an acquisition
- (b) Initial market sentiments on deal announcement using the deal value add (DVA) and the proportion overpaid (POP)
- (c) Non-financial parameters such as growth in output, operating efficiency (typically unit cost), access to quality resources (orebodies), access to skills, access to good operating processes and systems, compliance with legislation, access to markets, etc.
- (d) Financial parameters such as return on equity (ROE), earnings per share (EPS), dividend per share (DPS), price/earnings ratio (P/E), and debt/equity ratio (D/E)
- (e) These parameters are assessed on the following basis:
 - i. The initial assessment is based on the first three to five years, after which an additional five years will enable a fair assessment of the deal's impact.
 - ii. Figures are compared with those of the past to see whether they have improved or deteriorated. They are compared over the initial post-deal period of three to five years for trends (whether positive, negative or neutral) and also compared with appropriate industry benchmarks or companies.
 - iii. The overall assessment is then based on the outcome of these sets of parameters.
 - iv. Future projections are made based on past performance and other industry-related indicators.

3.2 SELECTION OF APPROPRIATE AND REPRESENTATIVE DEALS

For the purpose of this study, out of the 138 mining deals that were available from Dealogic, the following process was used in selecting appropriate and representative deals:

- (a) There were some deal duplications. These were typically the case where a single deal results in multiple transactions, which all get recorded as deals.

A typical example would be the Harmony/ARMgold merger and subsequent transactions, as well as the Kumba Resources/Eyesizwe merger and the associated transactions.

- (b) There were deals that involved acquirers that were not mining entities, for example banks or BEE consortia making acquisitions, and these were excluded for the purpose of this study.
- (c) There were deals where the percentage stake acquired and the asset involved was so insignificant as to make no major impact on the overall performance, and that would therefore be difficult to assess. A typical example is Harmony acquiring 37.8% in Village Main Reef for US\$65,000.
- (d) There were deals involving mining properties that were yet to be developed. Value assessment will be useful once these projects have been approved, executed, commissioned and allowed to operate for some time.

The remaining deals were then screened using some guidelines to arrive at about 15–20 deals. These guidelines were the following:

- (a) Deal value in terms of those that are significant (US\$100 million or more)
- (b) Rationale for the deal, whether BEE related or pure mergers and acquisitions, to ensure that the study considers examples of both cases
- (c) Types of commodity should involve at least gold, platinum, diamonds, base metals and/or coal
- (d) Deals involving major companies as well as junior mining companies
- (e) The period chosen should involve all the years between 2003 and 2008.

This resulted in a list of 18 deals, as shown in Appendix C. Of these deals, those that were acquired from 2007 onwards have not had adequate time for the deal objectives to be entrenched, and an assessment can only be made based on initial market reaction. Some of the remaining deals also involve companies that were not publicly listed on the JSE, thereby making it therefore difficult to obtain the information required.

Hence, applying the criteria of a period of three to five years for initial deal assessment and of deals involving companies where at least the acquirer is listed on the JSE resulted in about seven deals. The 31.6% stake of Anglo Plc in Kumba Resources was going to be difficult to assess due to the wider range of portfolios in Anglo Plc Mvelaphanda's 10% acquisition of GoldFields being perceived as a transaction on which Mvelaphanda will have little impact, in terms of management control.

Three key mergers were therefore arrived at that were significant, provided adequate information and could also impact significantly on post-merger performance. These were Harmony/ARMgold/Avmin in 2003, AngloGold/Ashanti GoldFields and Kumba Resources/Eyesizwe, with the latter having information for only two years, enabling only a preliminary assessment. Even though only three key mergers were used, they allowed for an in-depth analysis using all the parameters discussed earlier.

3.3 APPLICATION OF VALUE ASSESSMENT MODEL

3.3.1 Value Assessment of Harmony/ARMgold Merger

Deal background

Harmony Gold Mining Company Limited was formed in 1994 following the cancellation of the service contract between Harmony and Randgold, and was listed on the JSE as a separate entity in 1997. The company grew from a single-lease company in to a large global gold mining company, with operating assets in South Africa and Australasia.

Following a spate of acquisitions between 1998 and 2001 mainly in South Africa, involving Evander, Randfontein, Elandsdraal and Freegold (which was a 50/50 joint venture with ARMgold), the company's annual production grew from about 0.6 million ounces in 1997 to 3 million ounces in 2003. Within the same period, mining reserves grew from about 12 million ounces to over 60 million ounces.

Its operating philosophy is to acquire less profitable assets and transform them into profitable and sustainable assets. This is done mainly through:

- (a) Focus on cost (especially on overheads)
- (b) Flat management structures (which is believed to be more effective and efficient)
- (c) An ore reserve management philosophy that uses mining cut-offs as opposed to mining pay limits
- (d) Recapitalisation of the orebody to increase the life of mine

Most of these acquisitions achieved paybacks of between eight to ten quarters. The company's market capitalisation grew almost twenty-fold from R1.3 billion in 1998 to R24 billion in 2002. The average share price for the year-end rose from R24.50/share in 1998 to R142.00/share in 2002.

The history and track record of ARMgold also share some similarity. In 1994, Patrice Motsepe started Future Mining, a contract mining company which in 1997 led to the formation of African Rainbow Minerals Gold (ARMgold). The mining assets of ARMgold were mainly closed or unprofitable operations in the Orkney area of AngloGold Limited, which were mostly pillar mining operations.

ARMgold's business model was also based on cost focus and a flat management structure. ARMgold also introduced a system of continuous (seven days a week underground) mining operations, also known as CONOPs, in order to 'sweat' its assets to generate cash for future growth acquisitions. It was involved in a 50/50 joint venture cash acquisition of Freegold with Harmony in 2001. In 2002, ARMgold was listed on the JSE with a market capitalisation of R5 billion. From a small contracting company, ARM had grown to become a key gold producer in South Africa and produced about 1 million ounces of gold in 2003. ARMgold was a black-owned mining company.

The similarity in their business models in the areas of cost focus and flat management structure, as well as their successful partnership in the 50/50 joint venture, made their merger a business logic when the new Minerals and Petroleum Resources Development Act (MPRDA), No. 28 of 2002, was enacted. Although many mining companies in South Africa saw the merger as a threat and were looking for exit opportunities, it created an opportunity for the companies to

grow not only by merging similar business philosophies, but also by positioning themselves for further growth and proactively contributing to transformation in the South African mining industry.

Merger description

In May 2003, Harmony Gold Mining Company Limited (Harmony) and African Rainbow Minerals Gold Limited (ARMgold) announced details of a proposal to create a world-class unhedged gold producer, with the bulk of its operations in South Africa.

The merger was to create the fifth largest gold producer in the world, producing approximately 4 million ounces per annum. The transaction was effected by the issue of two Harmony shares for every three ARMgold shares held and the payment of a special dividend of R5 per ordinary share by ARMgold prior to the merger. At the time of the merger announcement, ARMgold had a market capitalisation of about R5.5 billion and Harmony about R14 billion, with ARMgold trading at about R56/share and Harmony at about R77/share (based on the figures a day prior to the deal announcement). The merged company was to be called Harmony with the “ARM words” conspicuous (Chief Executive’s Review, Harmony 2003 Annual Report).

Prior to this deal announcement, both companies had acquired control of Freegold assets from AngloGold Ashanti (then known as AngloGold) in a 50/50 joint venture in December 2001 at a cash acquisition cost of R1.35 billion.

After the merger, the aggregate Harmony shares issued to ARMgold represented 26% of the enlarged issued share capital of the merged company, with African Rainbow Minerals Investments (Pty) Ltd, represented by Patrice Motsepe, becoming the largest shareholder, holding approximately 14% at that time. Patrice Motsepe was also elected the non-executive Chairman of the ‘new Harmony’.

On the same day, the two companies subsequently announced details of a 50/50 joint acquisition of a 34.5% stake in Anglovaal Mining Limited (Avmin) for a cash price of about R1.7 billion, which represented a premium of about 30% at the time of negotiations based on market share price (Executive Chairman’s Review, ARMgold Results for Quarter ended 31 March 2003).

Avmin at that time held shares in, and managed, the following assets:

- Gold: Avgold Limited (42%)
- Manganese and iron ore: Assmang Limited (50.3%) and Assore and 9.3%
- Nickel: Nkomati Mine (75%)
- Platinum: Two Rivers Project (55%)

On 15 July 2003, Harmony acquired a further 11.5% stake in Avgold through the issue of about 6.9 million ordinary shares, which represented about 3.8% of the issued share capital of Harmony at that time.

This resulted in Patrice Motsepe becoming the biggest shareholder in Avmin, and also created the first black-empowered diversified mining company called ARM, having assets in gold, platinum and ferrous metals, and exploration in copper in Zambia.

The new Harmony effectively owned and operated Freegold, Target and the Orkney operations in addition to the assets of the old Harmony, making it the largest gold producer in South Africa at that time with the largest gold resource base, and also operated major growth projects. It also owned about 20% of ARM at that time, which it sold at a later stage.

Deal objectives

The key merger objectives, as recorded in the 2003 Annual Reports of Harmony and ARMgold, as well as presentations made to investors at that time, can be summarised as follows:

- A diversified black-empowered mining company was created.
- The new ARM would create more value for shareholders, using its successful past business model, and would contribute to the communities in which it operated.
- Harmony complied with the MPRDA in terms of black ownership requirements and the subsequent appointment of a black non-executive chairman.

- A new Harmony was created which would have the largest gold resource basis (about 520 million ounces).
- The new Harmony would be the fifth largest producer of gold in the world, producing about 4 million ounces of gold per annum, and having growth projects.
- CONOPs (an operating process used successfully at ARMgold) would be implemented at all Harmony's operations to sweat its assets and increase gold production to generate improved earnings and help fund future growth projects.
- The Harmony business model of cost focus, better ore-reserve management and flat management style would be used to further enhance operational performance.

Value creation parameters applicable

This deal will be assessed on the basis of value creation for Harmony shareholders and the following value creation indicators or parameters will be used:

- Merger objectives in terms of what shareholders expected and what has been achieved
- The initial market sentiments regarding the deal and its effect on the share price of Harmony & ARMgold using the DVA as a short-term metric
- Non-financial parameters such as access to quality orebody, access to quality skills, better operating processes, growth in production, improvement in operational efficiency, compliance with legislation, etc.
- Financial parameters such as ROE, EPS, DPS, P/E and D/E
- Depending on the information available and where applicable, the non-financial parameters will be measured on past performance compared with current performance. The financial parameters will be measured on past performance and also compared with industry performance.

- The first five years after the deal gives an indication of the medium-term value created. Most of the discussion will therefore be based on value created in the medium term from 2004 to 2008. However, an indication will also be given in terms of what the prospects are in the next five years for long-term value creation to be realised. It must be noted though that some deals may take less or more than ten years to realise value, but ten years has been chosen as a reasonable period for this study.

Short-term metric (deal value add – DVA)

The DVA is a short-term metric used by McKinsey to determine value creation, and it is based on the assumption that positive DVA tends to correlate with long-term value creation. It is essentially the difference between the combined market capitalisation of two companies two trading days prior to the merger announcement and two trading days after the merger announcement. Its objective is to capture the markets' perspective as to whether they believe it is a good deal or not. It also considers the share price reaction for the acquirer. To establish this, we need to observe the market reaction to Harmony and ARMgold relative to the deal announcement date of 2 May 2003.

Table 3.3.1a indicates that the merger announcement had a positive DVA of about R1.89 billion, which is an increase of about 10% in the combined market capital of the merging companies, with Harmony showing a 12.52% change in market capital. Figure 3.3.1a is a graphical illustration of changes in the market capital of both companies.

Table 3.3.1a: Deal Value Add (R billion)

Market Capital	Before	After	Variance	% Variance
Harmony	13.5	15.19	1.69	12.52
ARMgold	5.49	5.69	0.2	3.64
Combined	18.99	20.88	1.89	9.95

Source: McGregor BFA

The changes in market capital could also be affected by the external market effects of gold price and exchange rate. Figure 3.3.1b shows the share price movement of Harmony relative to the JSE Gold Index. The two trading days prior

to 2 May mean 29 April and the two trading days after 2 May mean 6 May. It can be seen that the JSE Gold Index moved from 94 to 101 (7 points), whereas Harmony moved from 89 to 102 (13 points) over the same period.

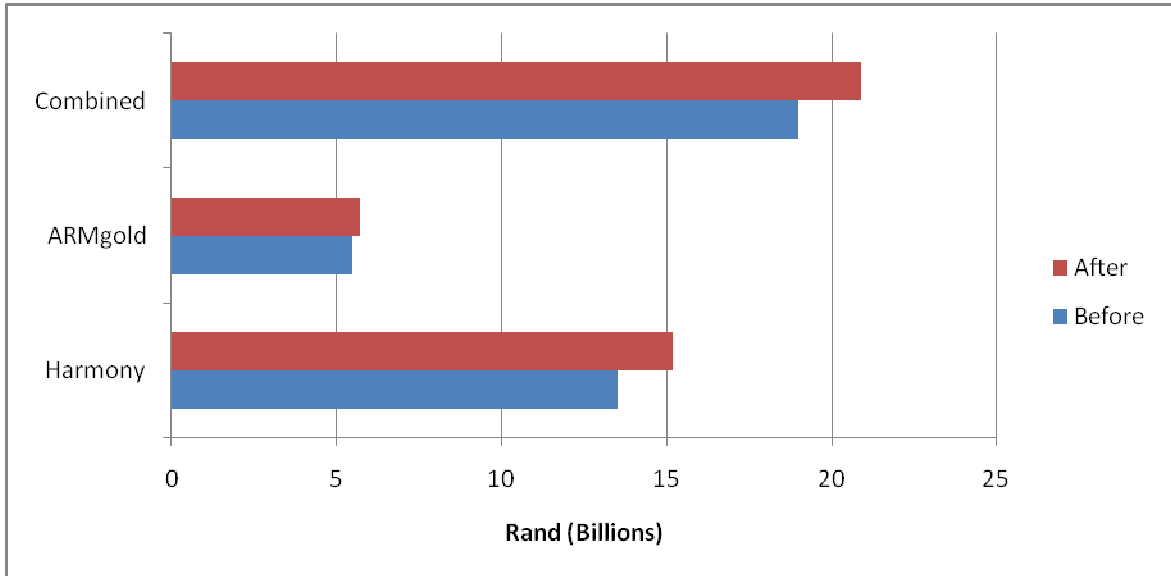


Figure 3.3.1a: Changes in Market Capital due to Announcement Effects (Source: McGregor BFA)

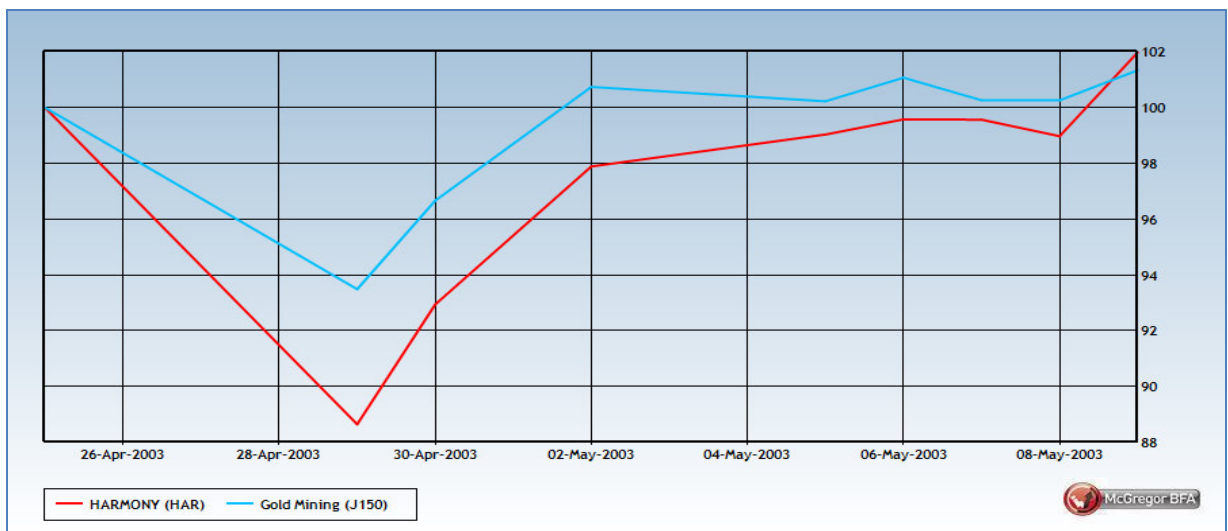


Figure 3.3.1b: Harmony Share Price Reaction Relative to Gold Index (Source: McGregor BFA)

The market's reaction to the deal was positive as depicted in the DVA, and this added value to the market capital. According to McKinsey, there is normally a positive correlation between DVA and long-term value creation. In other words, in an efficient market, where fundamentals rule as opposed to short-term emotions, the market's prediction of value creation normally tends to be the case. This is true if the market has adequate information on what is actually happening in organisations, as well as the ability to predict the future dynamics within a particular industry. It is also based on the flawed assumption that a company's internal capability will remain constant and therefore past performance predicts future performance. This is, however, not always the case.

Medium-term metric (non-financial parameters)

The non-financial parameters that have the potential to add value include the following:

- Access to quality orebody (Freegold & Target)
- Access to skills (skills transfer from ARM)
- Access to improved processes and systems (CONOPS)
- Production output profile (ounces of gold produced annually)
- Operational efficiency (unit cost in R/kg terms)
- Compliance with legislation (mining licence)

In terms of access to quality orebody, Harmony's total resource, including project ounces, increased by 39% from 296 million ounces to 410 million ounces. Total reserves also increased by 26% from 49 million ounces to 62 million ounces. This is reflected in the Chief Executive's Overview in the 2003 Annual Report, and includes 100% of ARMgold and Freegold.

In terms of synergy, the Freegold and Target mining areas were extensions of most of the old Harmony operations, and this close proximity further enables the exploitation of synergies between these assets and the old Harmony assets.

The position of the Freegold and Target assets relative to the old Harmony operations is depicted in Figure 3.3.1c. The classification of these assets in terms of marginal, quality, long-life quality and project growth are depicted in Table 3.3.1b.

In general, Harmony had access to some quality orebodies as a result of the merger, more specifically Tshepong, Masimong and Target. It also took over some orebodies that were depleted, an example of which was Orkney.

Table 3.3.1b: Harmony's Assets Classification (Source: Harmony Annual Report 2003)

Marginal Ounces	Quality Ounces	Long-life Quality Ounces	Project Growth Ounces	Potential Projects
Harmony	Evander	Masimong	Tshepong North	Morobe/Wafi
Joel	Kalgold	Elandskraal	Phakisa	Poplar
Rest of Freegold	Randfontein	Tshepong	Doornkop	Rolspruit
St Helena	Highland Gold (31%)	Bambanani	Target (26%)	Kalplats
Australian ops	Bendigo (32%)			
Orkney shafts	Aurion (9.8%)			

The fact that Masimong, Tshepong and Bambanani (long-life quality assets) and Tshepong North, Phakisa and Target (project growth assets) formed part of the merger transaction shows that Harmony secured long life and growth in production from this merger of assets.

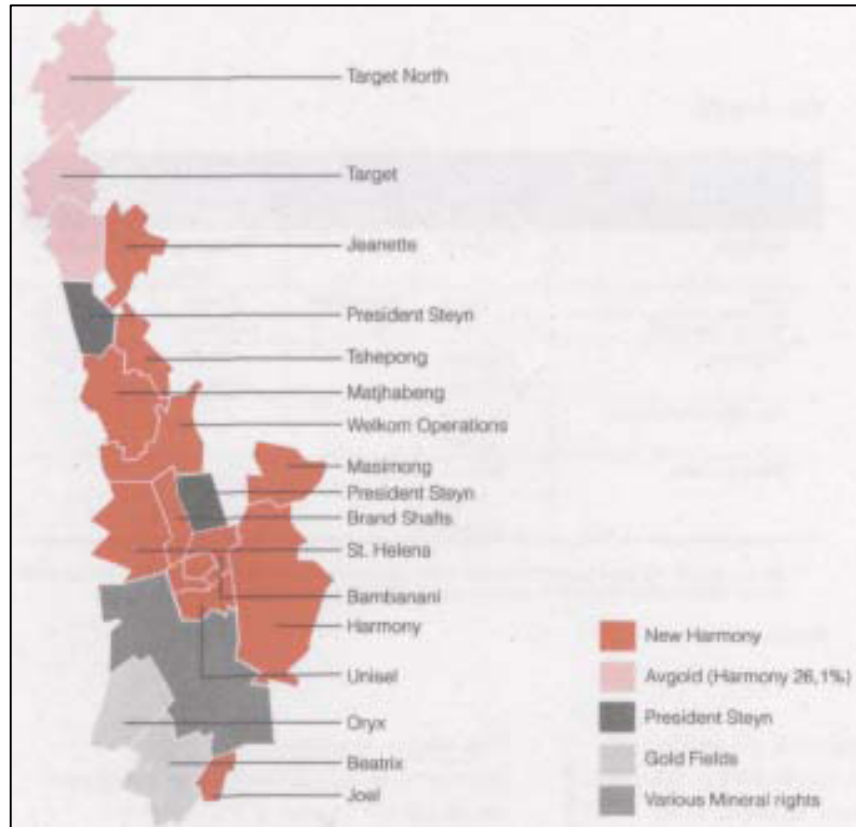


Figure 3.3.1c: Location of Harmony's Assets (Source: Harmony Annual Report 2003)

In terms of access to skills, Harmony acquired a lot of executive management skills through this acquisition but some managers left at a later stage. In most cases, duplication in roles occurs through mergers and this often leads to redundancy. Some of the skills were also redeployed to the newly formed ARM. Harmony, however, retained the skills of Patrice Motsepe, who has provided guidance to the company as non-executive chairman over the past five years, and of Andre Wilkens as a non-executive director. Alwyn Pretorius, Chief Operating Officer, came over from ARMgold and the ex-Chief Operating Officer, Peter Steenkamp, also came over from ARMgold. So in a nutshell, the merger brought some skills to Harmony.

In terms of improved processes and systems, CONOPs was expected to bring about a substantial increase in production and reduce the cash operating cost per ton by 5–8% (Chief Executive Officer's Review, 2005 Annual Report). There was success in some operations, but a lot of difficulty was experienced with organised labour, especially in the Free State. The company therefore did not make the progress anticipated. In the Chief Executive Officer's Review, 2008 Annual Report,

he stated that CONOPs was not delivering the desired results and it has subsequently ceased.

In terms of production output, Harmony experienced a continuous decline in gold production from 2004 to 2008. Prior to the merger, Harmony produced about 2.6 million ounces of gold in 2002 and ARMgold produced about 1 million ounces of gold. Gold production declined from about 3.3 million ounces in 2004 to 2.3 million ounces in 2007. Within this period inflationary pressure in the South African mining environment impacted on the unit cost of mining companies and hence the mining cut-off grade, resulting in some assets becoming unprofitable. Some of the Harmony assets had also depleted their reserves. In 2008, the sale of Harmony's Orkney assets to Pamodzi Gold and of the Randfontein Cooke operations to Rand Uranium resulted in a further loss in gold production, with annual gold production plummeting to about 1.6 million ounces.

The period 2004 to 2008 was therefore a reverse of the growth story depicted in the period prior to 2004. Figure 3.3.1d illustrates the gold production profile from 2000 to 2008.

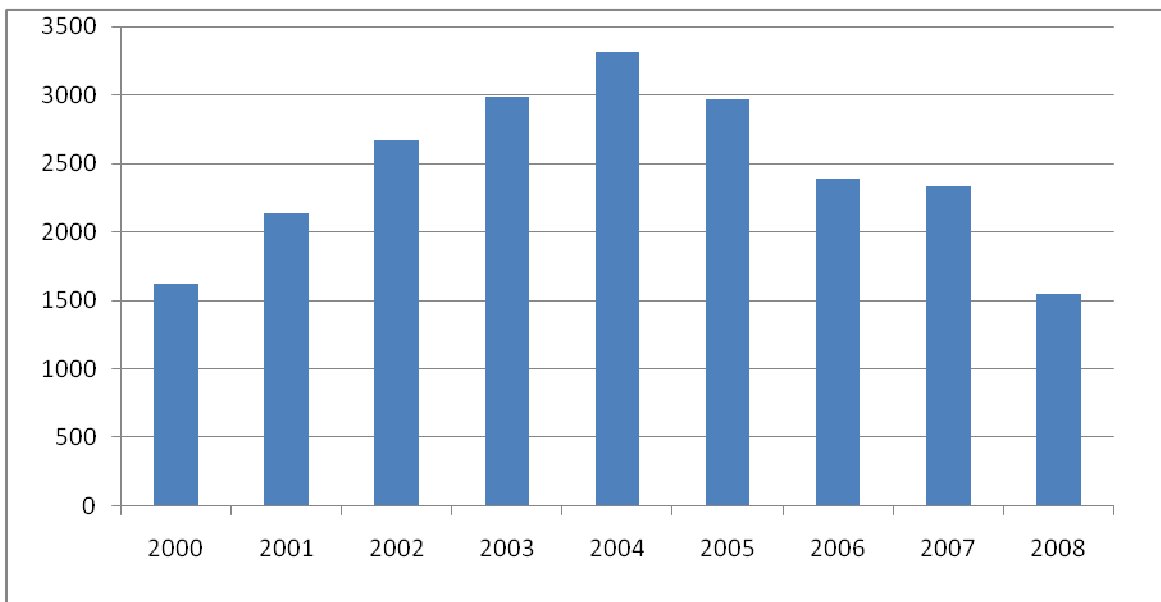


Figure 3.3.1d: Gold Production at Harmony (000 ounces) (Source: Harmony Annual Reports, 2000–2008)

In terms of operational efficiency, Harmony’s unit cost in R/kg of gold produced also showed a substantial increase year-on-year in the period 2004 to 2007, with an improvement in 2008. The producer price index for mining and quarrying, supplied by Statistics SA (source: McGregor BFA) shows a marked increase in the period 2004 and 2008 as indicated in Figure 3.3.1e.



Figure 3.3.1e: Producer Price Index for Mining and Quarrying (Source: McGregor BFA)

Between 2004 and 2008, this index moved from 120 to 180 (difference of 60 units) compared with the period between 2000 and 2004 when it rose from 95 to 115 (difference of 20 units). This gives an indication of the inflationary environment in which Harmony, like any other South African mining company, operated.

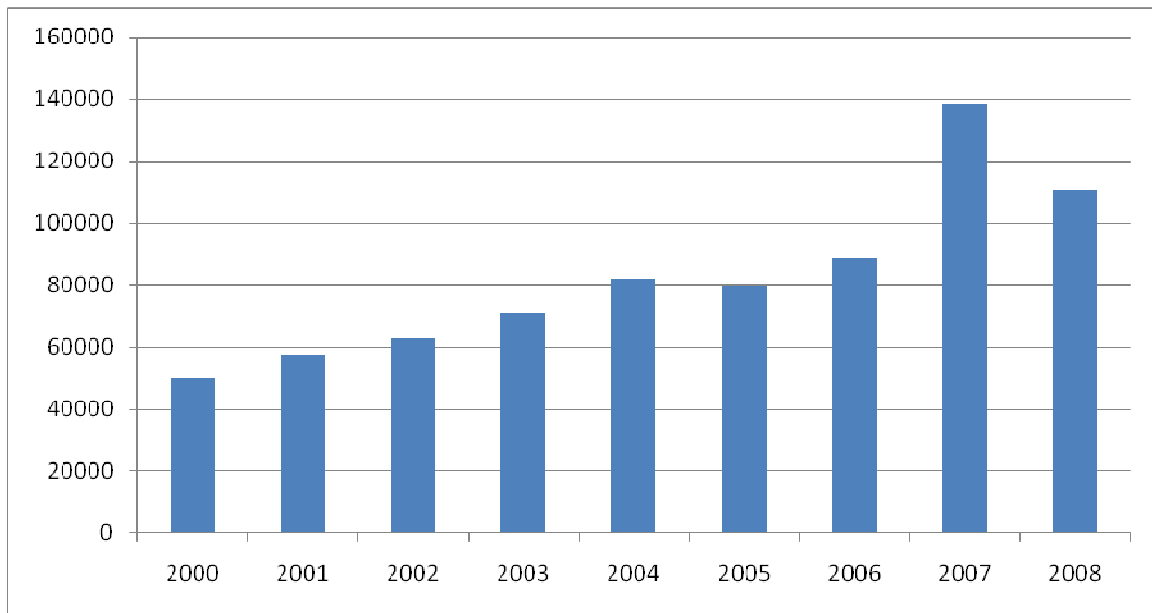


Figure 3.3.1f: Unit Cost of Production for Mining and Quarrying in R/kg (Source: Harmony Annual Reports, 2000–2008)

Harmony’s unit cost in R/kg of gold produced rose from about R82 000/kg to about R138 000/kg in 2007 (about 60%) before improving to about R110 000/kg in 2008.

It can be seen that in the period 2004 to 2006, cost increases followed a historical trend, but 2007 and 2008 showed excessive cost increases, with 2007 being affected by restructuring and a decline in production. Even though there was a general escalation in costs in the industry, Harmony also had the opportunity to establish its key strategic differentiator (cost focus), which was not evident over this period.

In terms of legislation, one of Harmony’s expectations in this deal was to enhance its BEE ownership credentials in support of its mining licence application. This also led to the formation of a newly established diversified black empowerment company in the form of African Rainbow Minerals (ARM). The contribution made by this deal to Harmony’s BEE ownership credentials is shown in Table 3.3.1c.

Table 3.3.1c: BEE Production Ounces Conversion (Source: Harmony Annual Reports, 2003–2004)

BEE Transaction	Equivalent Empowered Ounces of Gold Production	Calculation Notes
Sale of 10% of Elandsrand to Khuma Bathong	36 000	10% of 360 000 ounces produced by Elandsrand
Simane Purchase of Equity in Harmony	194 000	6.4% (original holding by Simane of Harmony's total ounces for 2003)
Sale of 26% of mineral rights at Doornkop to AVR	560 000	26% (AVR's share) multiplied by the 330 000 ounces that Doornkop is expected to produce at full scale
Harmony/ARMgold merger	560 000	14% (shares in the merged Harmony entity which will be held by ARMI)
Total "equivalent empowered gold ounces of production"	875 000	Note that "equivalent empowered ounces" reflects historical transactions and not only current BEE holdings
Total ounces of South African gold production of merged Harmony	3 600 000	Total South African production of Harmony for 2004
Equivalent BEE ounces as %	24%	

The Harmony/ARMgold merger contributed significantly to the empowered ounces to enable Harmony to achieve 24%, which was already well in excess of the Mining Charter's requirement of 15% within five years in terms of BEE ownership.

In October 2004, Harmony became the first senior company to convert from 'old order' to 'new order' mining rights for the Evander, Randfontein and Elandsdraal operations. During the 2008 financial year, the company achieved a significant milestone when the DME granted the conversion of additional 13 mining rights. The company therefore had all its mining rights converted in terms of the MPRDA.

This is a laudable achievement considering the current climate of backlogs and delays in licence conversion in the South African mining industry.

Above all else, Harmony has secured the right to mine, which is a prerequisite for conducting mining operations in South Africa, without which there can be no guarantee of, and sustainability of, shareholder value.

Medium-term metrics (financial parameters)

The medium-term financial metrics will consider return on equity (ROE), earnings per share (EPS), dividends per share (DPS), price/earnings ratio (P/E) and debt/equity ratio (D/E) over the period of five years (from 2004 to 2008).

The assessment will compare these metrics with those for the three years prior to the deal (2000 to 2002) and with other JSE-listed gold companies (specifically GoldFields and AngloGold Ashanti, see Figures 3.3.1g to 3.3.1k), and also discuss trends.

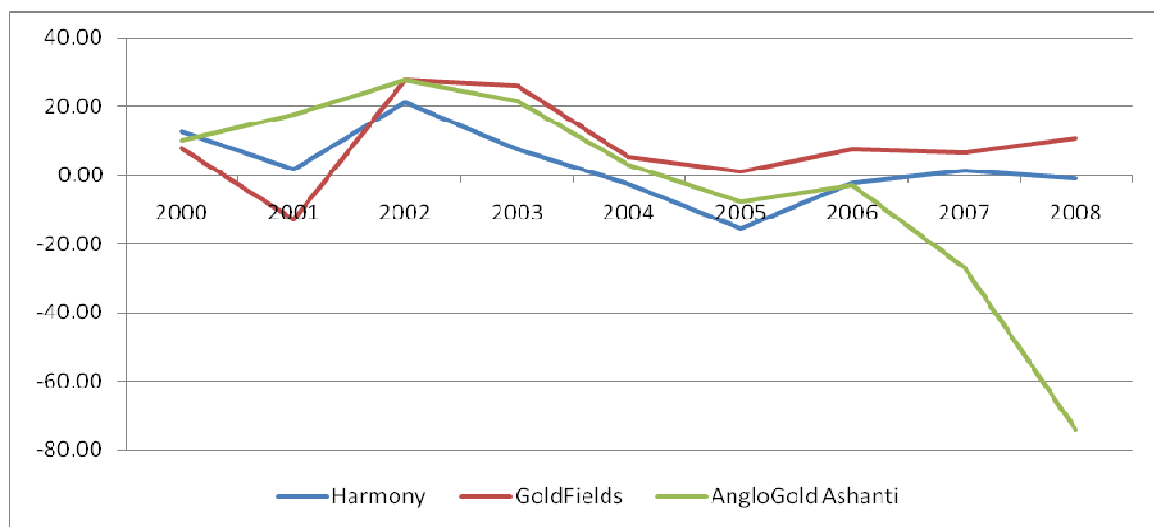


Figure 3.3.1g: Comparative Return on Equity (%) (Source: McGregor BFA)

Measured against past performance, ROE showed a decline, especially from 2004 to 2006, but has since shown a steady improvement. Measured against its peers, Harmony shows the same ROE trend as GoldFields and AngloGold Ashanti, except that AngloGold Ashanti shows a dramatic decline from 2006 to 2008. Harmony’s ROE can therefore be attributed to gold mining industry dynamics, which revolve around the producer price index (for mining) and the R/kg gold price received.

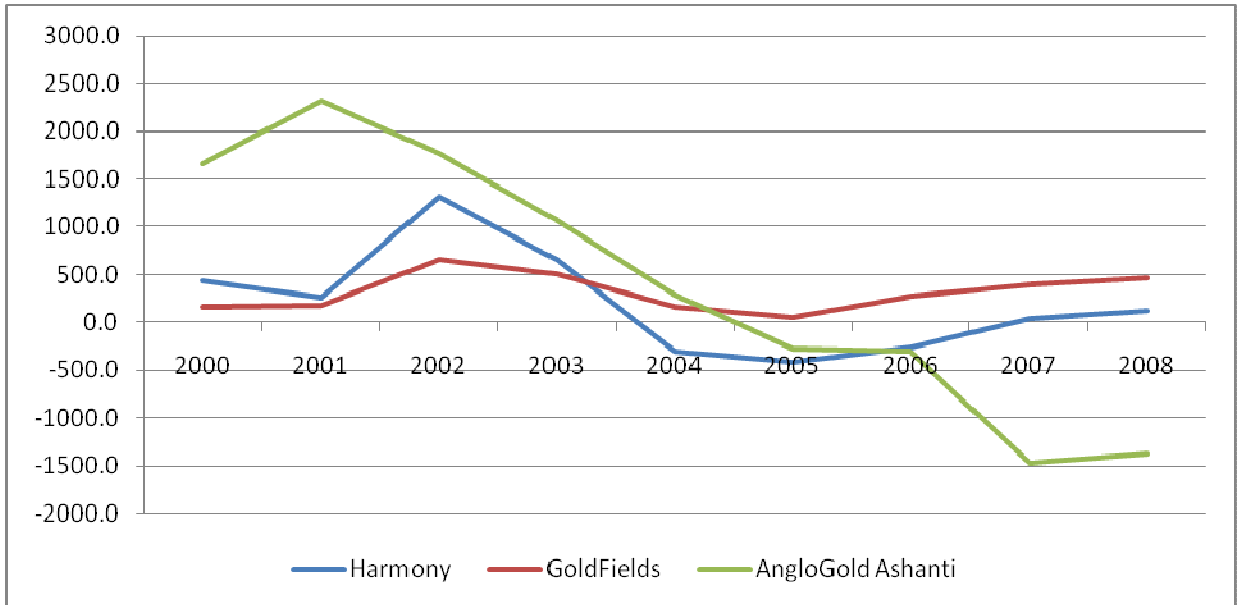


Figure 3.3.1h: Comparative Earnings per Share (SA cents per share) (Source: McGregor BFA)

Measured against the past, EPS shows a decline, especially between 2004 and 2006, after which a slight positive improvement is shown from 2007 to 2008. Compared with its peers, Harmony shows the same trend as GoldFields and AngloGold Ashanti, except that AngloGold Ashanti shows a drastic decline from 2007 and 2008. Harmony’s EPS can therefore be attributed to industry dynamics.

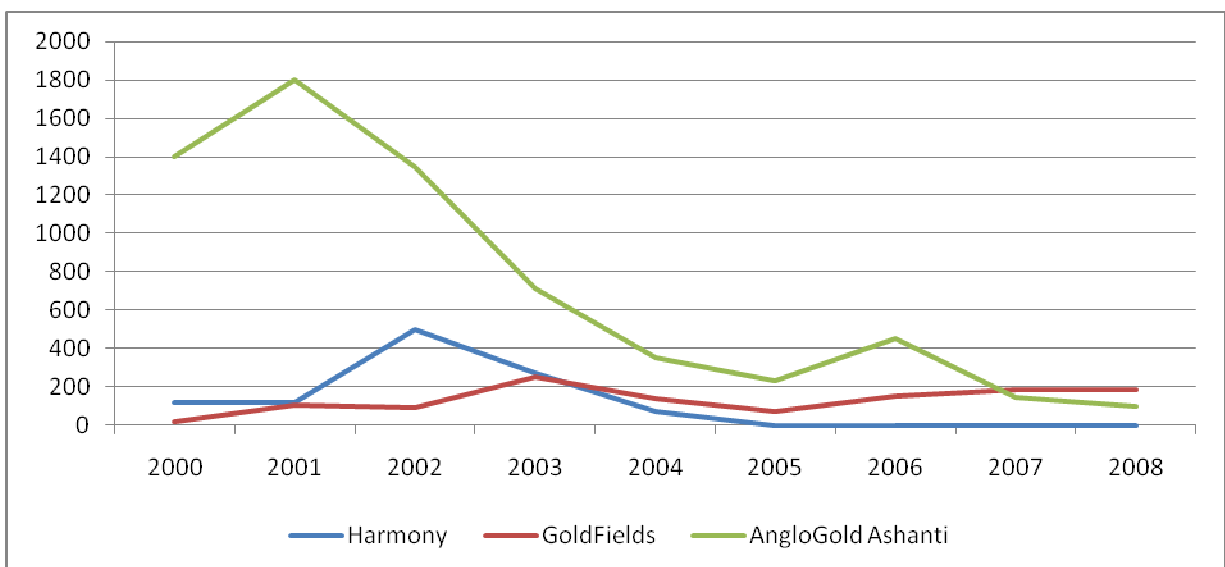


Figure 3.3.1i: Comparative Dividends per Share (SA cents per share) (Source: McGregor BFA)

Harmony’s dividend per share has shown a decline compared with the past, with no dividends declared from 2005 to 2008, whereas its peers did pay dividends over the same period. With huge capital projects currently in place and the accompanying capital expenditure requirements, this may have been a prudent thing to do.

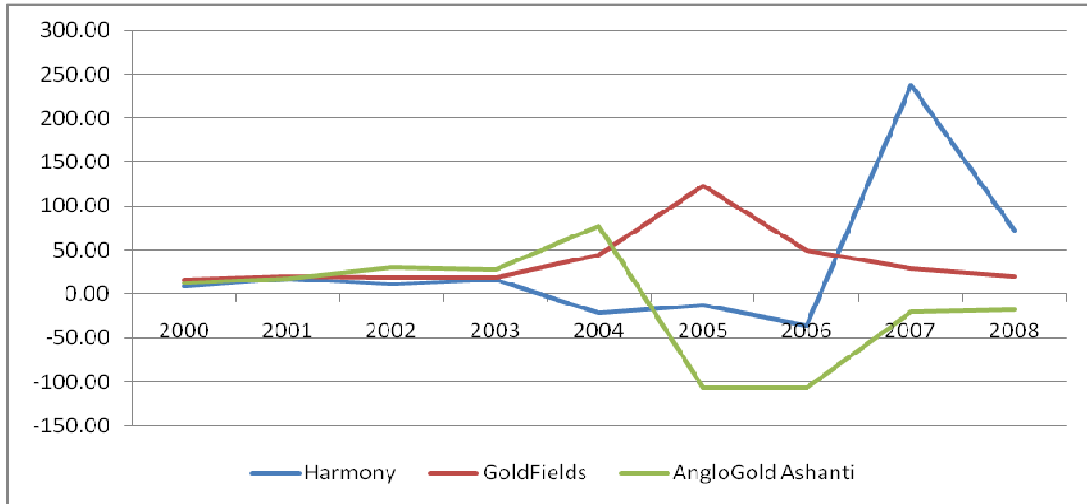


Figure 3.3.1j: Comparative Price/Earnings Ratio (Source: McGregor BFA)

Harmony’s P/E ratio showed a decline from 2004 to 2006, and then increased considerably in 2007 and 2008. Its performance relative to that of its peers is indicative of industry dynamics, underperforming GoldFields from 2004 to 2006, and overperforming its peers in 2007 and 2008.

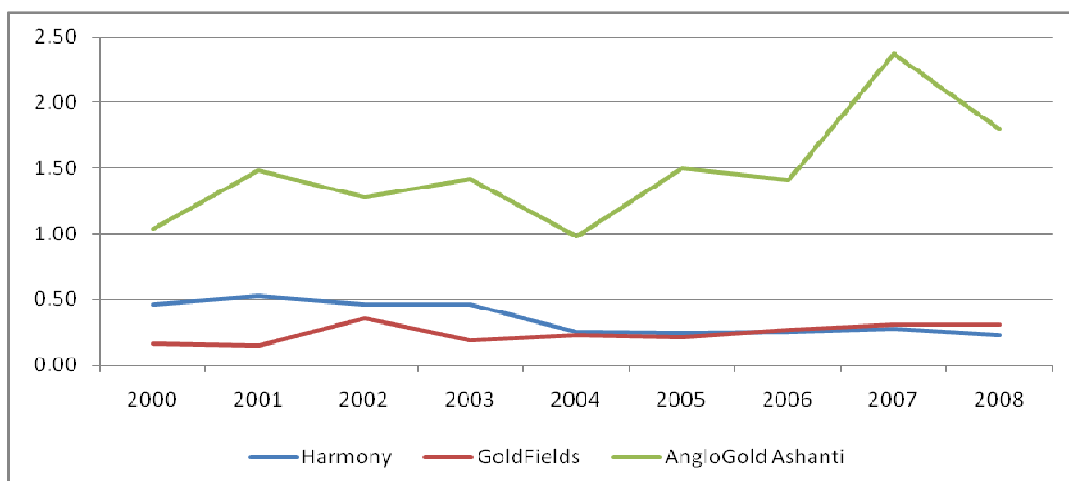


Figure 3.3.1k: Comparative Debt/Equity Ratio (Source: McGregor BFA)

Despite its huge capital expansion programme, Harmony has managed to reduce its debt to a reasonable level. However, it had to dispose of assets (GoldFields shares, Orkney, Randfontein Cooke operations, etc.) to raise cash, which has impacted severely on its gold production. Compared with those of its peers, its D/E ratio is reasonable. The decision to raise cash through the disposal of “less profitable assets” as opposed to share issue has prevented share dilution. This should have a positive impact on its EPS and P/E ratio in the future.

It would also have been expensive to raise cash through a share issue, considering Harmony’s share price performance. Moreover, the current global financial market makes it difficult to secure debt.

Overall deal value assessment

In terms of deal objectives, the merger did create the required empowerment credentials for the renewal of old order licences. Harmony’s further commitment to dispose of its 20% stake in ARM to black empowerment interests additionally underpins its proactive commitment to transformation in the South African mining industry. Even though, in hindsight, the 20% could have yielded good returns judging on the performance of ARM over the past five years, good business decisions do not always entail monetary benefit. They are also about wealth maximisation (which involves all stakeholders) as opposed to profit maximisation (which focuses on shareholders only).

In terms of production growth through CONOPs, operational improvements and projects to achieve 4 million ounces annual production, Harmony has never been able to achieve this objective to date. Its production forecast over the next eight years indicates a maximum annual production of about 3.5 million ounces per annum. This is shown in Figure 3.3.11.

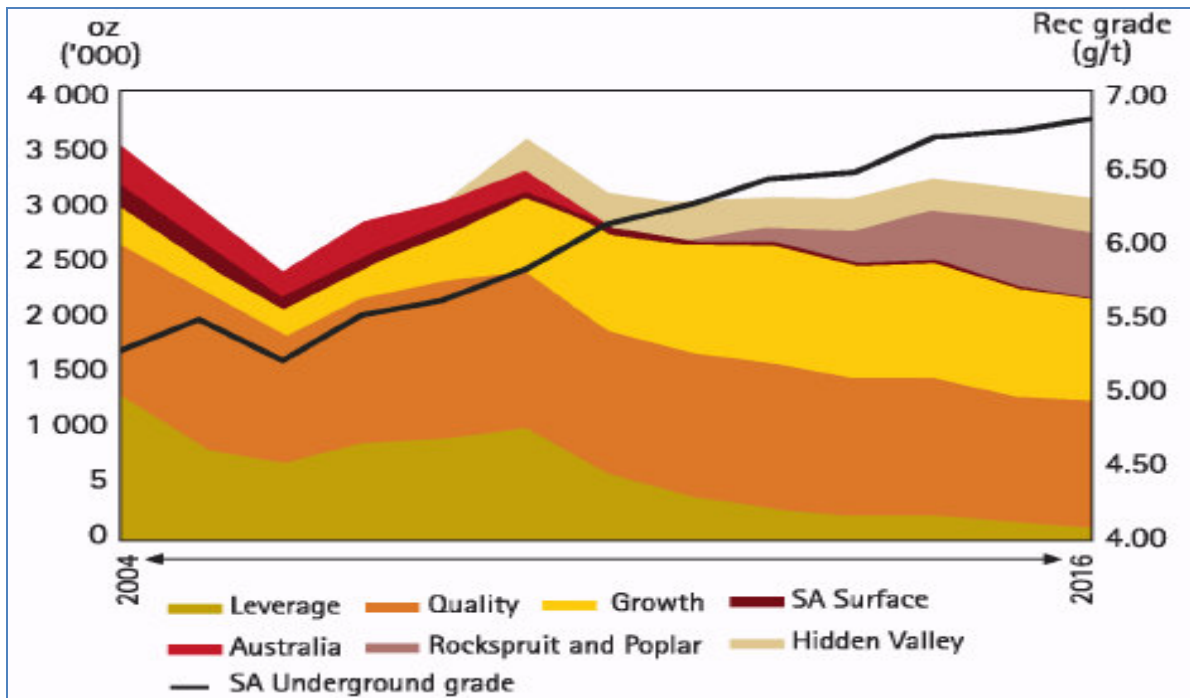


Figure 3.3.11: Harmony's Production Forecast (Source: Harmony Annual Report 2006)

In terms of improvement in earnings, Harmony's performance has been mixed. The period between 2004 and 2006 was disappointing, while the period between 2007 and 2008 shows some improvements. This performance is more of a reflection of industry trends between 2004 and 2006 when costs escalated with the R/kg gold price actually declining from about R96 000/kg to about R85 000/kg in 2004 and 2005, before rising again in the later stages of 2006. This performance is also mirrored by its peers.

Harmony, however, lost the opportunity to establish its key strategic differentiator (cost focus) which was critical for survival between 2004 and 2006. Its cost focus was not strong enough, and therefore it lost the opportunity to keep its marginal mines profitable and even acquire more marginal mines from its competitors. In essence, Harmony's business philosophy of acquiring marginal mines and turning them into profitable mines was brought into question when it had to sell 'marginal mines' itself.

In terms of creating a large resource base, Harmony achieved that objective, but more value would have been created if more resources could have been moved into the reserve category between 2004 and 2008 through improved cut-off grades, more development and exploration.

In terms of short-term metrics (DVA), the market sentiment was very positive and caused a substantial increase in the market capital of the two companies in the short term.

In terms of non-financial indicators, Harmony had access to quality orebodies, access to some skills and was able to comply well with the legislative requirements of the MPRDA. There was no substantial improvement in its operating processes (due to CONOPs), no growth in gold production and not much operational improvement in terms of the unit cost in R/kg of gold produced. The unit cost was, however, affected by rising inflation and lower gold production, partly due to the lack of adequate electricity supply from Eskom and safety interventions by the DME.

In terms of the financial indicators of ROE, EPS, DPS, P/E ratio and D/E ratio, Harmony's performance was largely due to industry dynamics and is reflected in the performance of its peers over the same period.

Long-term outlook (next five years)

Harmony has secured mining licences for all its operations. It has restructured its balance sheet and looks healthy from a debt point of view. It has access to quality orebodies and has exciting growth projects that are moving towards commissioning. There was some improvement in unit cost in 2008 and that focus, if maintained, could see further improvement in the next five years relative to the industry. Gold is heading for a bullish period at the current dollar price.

The next five years may be an exciting time for Harmony if costs are kept well below the industry average and growth projects are commissioned on schedule. This will improve earnings and shareholders can expect a substantial improvement in ROE, EPS, DPS and P/E ratio.

Failure to capitalise on this moment will lead to value destruction for shareholders.

Summary

In summary, the merger has created mixed results in terms of shareholder value. Most of the underperformance was due to industry dynamics as opposed to lack of management control. This is echoed by the performance of GoldFields and

AngloGold Ashanti. For the merger to create value from the financial point of view, Harmony should outperform the industry in most of the five financial indicators used, or have a trend that is better than that of the past, or both. This has not been the case to date.

However, the merger has still presented Harmony with a great opportunity to grow back its production profile through existing projects, improve the bottom line through cost focus and position itself for the bullish period that gold is expected to experience in the next five years.

In conclusion, the merger definitely added some value from the black economic empowerment point of view, and may still add enormous value to Harmony in the next five years, despite the numerous challenges that it posed and the environment in which Harmony has operated between 2004 and 2006.

3.3.2 Value Assessment of African Rainbow Minerals

The formation and history of African Rainbow Minerals (ARM) has been described in detail already. Most of its operations are joint ventures, with joint management of the assets. Prior to the Harmony merger, the company was already in a 50/50 joint venture at Modikwa Platinum with Anglo Platinum. The acquisition of a stake in Avmin resulted in a joint venture with Assore, involving iron ore and manganese assets. The company then went into a joint venture with Norlisk in nickel at Nkomati. In 2007, ARM purchased a 20.6% stake in XStrata Coal South Africa in a BEE deal. In 2009, ARM entered into a joint venture with Vale involving its copper and exploration assets in Zambia and the Democratic Republic of Congo. It has continued to retain its interest in Harmony Gold as the largest shareholder. The company has since grown from a market capitalisation of R1.1 billion in 2004 to R7.5 billion in 2008, approximately a sevenfold increase.

It has therefore become a diversified BEE company in various commodities. It is fairly unique in terms of its asset composition and is a JSE-listed South African company, with most of its assets being local, making it a bit similar for benchmarking with Exxaro Resources.

Value assessment criteria

The non-financial value assessment for ARM will involve its growth in production and project pipeline to sustain and increase current production levels for coal, platinum, iron ore, chrome and manganese. It will also consider the cash operating cost of some of the key assets, especially in platinum, iron ore and manganese and it will involve skills acquisition through the joint ventures.

The financial criteria will be ROE, EPS, DPS, P/E ratio and D/E ratio (see Figures 3.3.2a to 3.3.2g). Although a suitable benchmark would be Exxaro, it has unfortunately operated for only about two years. Hence the trend over the past four years and other relevant financial indicators will be used to assess value creation. Platinum, manganese and iron ore are the major sources of earnings for ARM, and hence the operational performance will focus only on those assets.

Non-financial assessment

Total iron ore sales increased from 5.9 million tons in 2006 to 6.6 million tons in 2008, and the approval of the Khumani expansion, adding an additional 6 million tons per annum, will contribute significantly to the growth profile. Total unit cost in sales per ton increased from R144.6/ton in 2006 to R257.7/ton in 2008. Iron ore sales therefore increased by about 11%, while the unit cost increased by 78%. This is the combined performance of the Beeshoek and Khumani iron ore operations. Khumani, which is still in ramp-up phase, accounts for some of the unit cost increase.

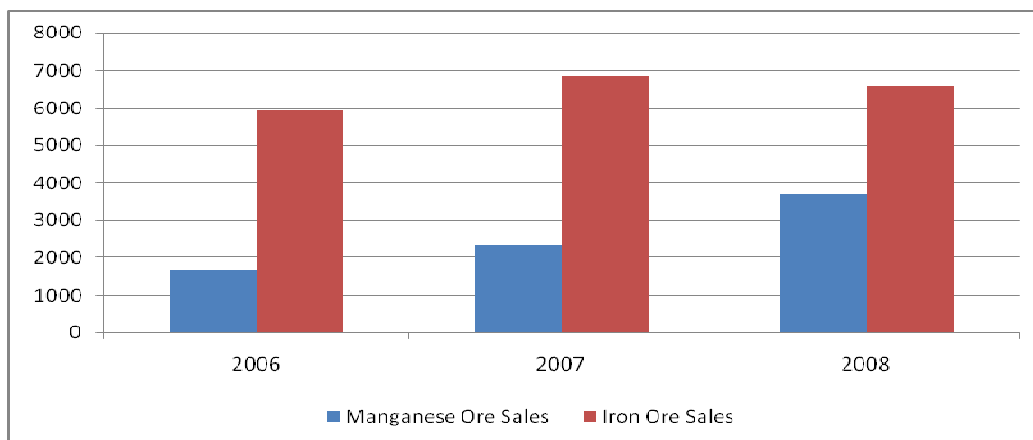


Figure 3.3.2a: ARM Manganese and Iron Ore Sales (000 tons) (Source: ARM Annual Reports, 2006-2008)

Manganese ore sales increased from 1.7 million tons in 2006 to 3.7 million tons in 2008, with the unit cost increasing from R349/ton to R555/ton over the same period. Manganese sales therefore increased by 121% and the unit cost by 59% between 2006 and 2008. The increase in unit cost is quite substantial considering that an increase in volume usually brings the benefit of unit cost reduction.

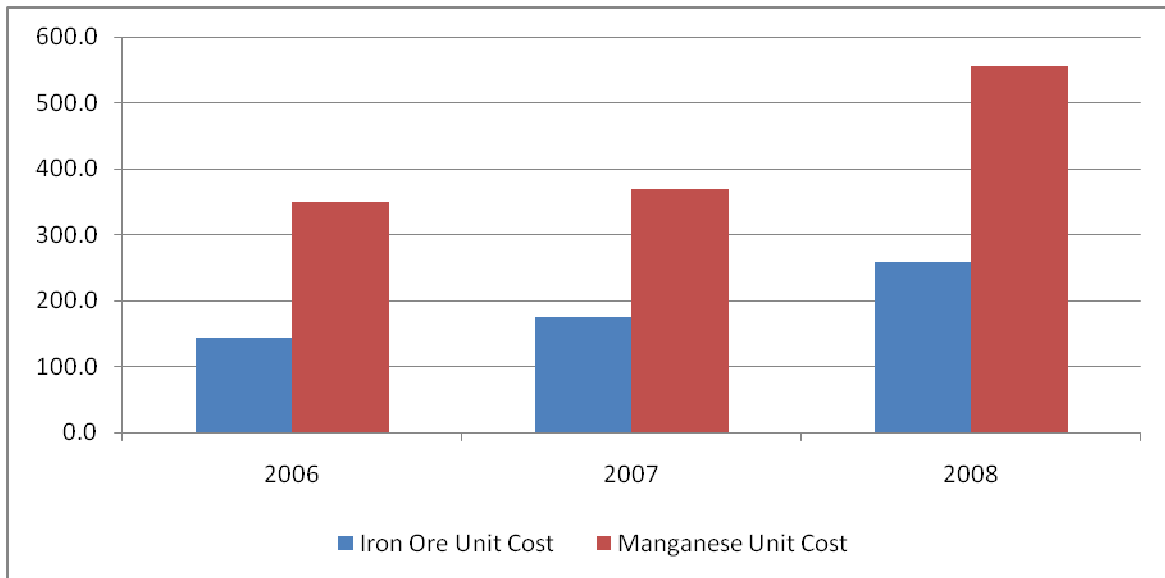


Figure 3.3.2b: ARM Total Cost per Sales Ton (R/t) (Source: ARM Annual Reports, 2006–2008)

Total platinum group metals (PGM) production increased from about 343 000 ounces in 2006 to about 550 000 ounces in 2008, with an expected further increase in production when the Two Rivers operation ramps up in 2010, with Nkomati also delivering a substantial increase in nickel production when the Nkomati Project ramps up in 2010.

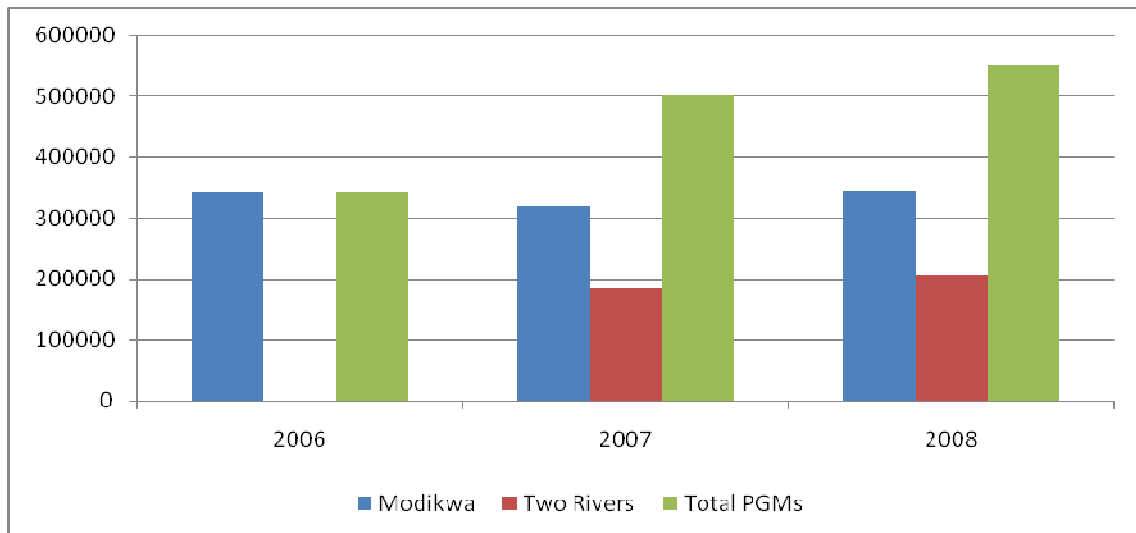


Figure 3.3.2c: ARM Platinum Group Metals Production (ounces) (Source: ARM Annual Reports, 2006–2008)

In terms of cash operating cost in R/ton, Modikwa Platinum experienced an increase in unit cost of about 35% between 2005 and 2008, from R398/ton to R538/ton. Two Rivers Platinum is ramping up production and the unit cost is expected to stabilise once it achieves full-scale production.

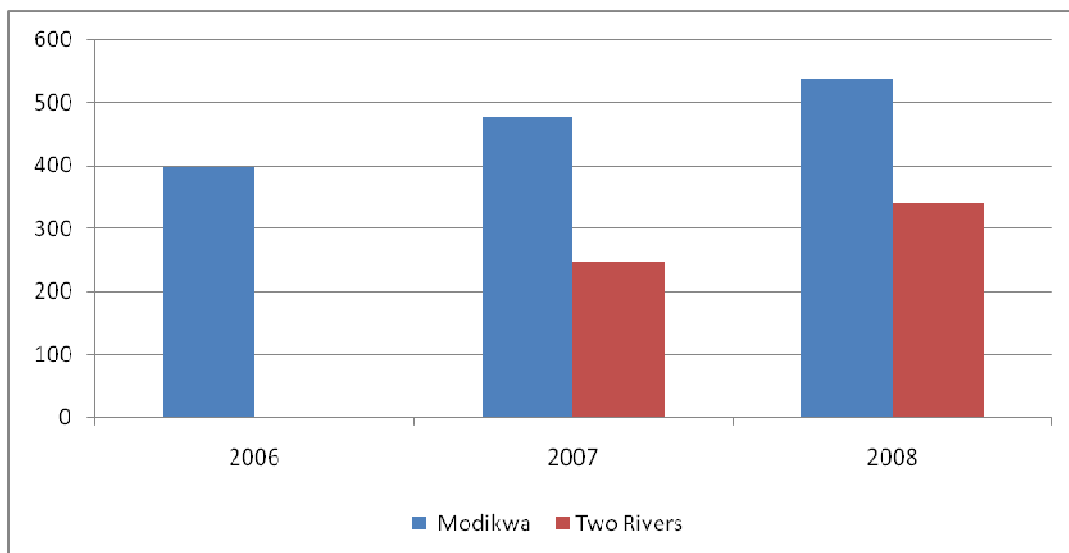


Figure 3.3.2d: ARM Cash Operating Cost (R/ton) (Source: ARM Annual Reports, 2006–2008)

Financial assessment

Return on equity has shown a very good trend, increasing from about 6% in 2006 to 30% in 2008, which is quite high compared with that of most mining stocks listed on the JSE.

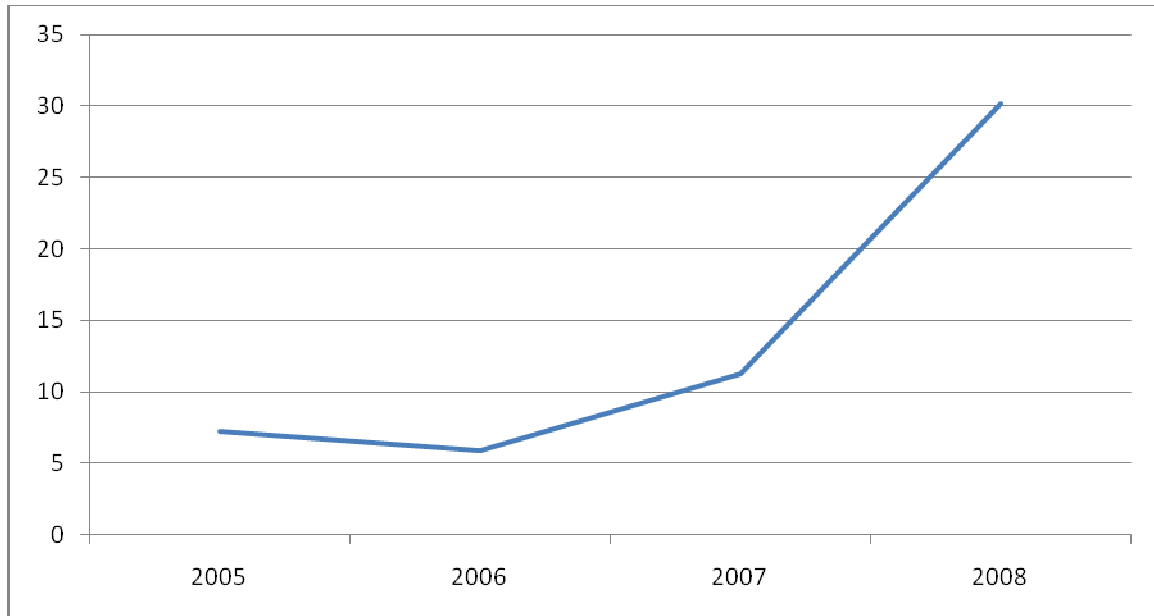


Figure 3.3.2e: ARM Return on Equity (%) (Source: McGregor BFA)

Earnings per share and dividends per share increased substantially between 2006 and 2008. The trends are very encouraging.

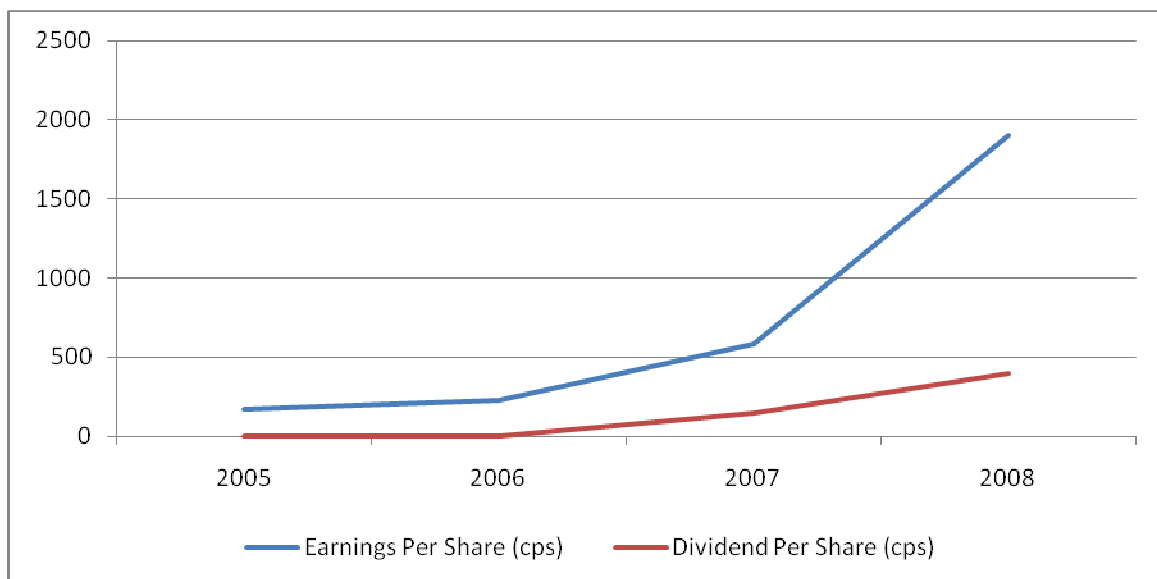


Figure 3.3.2f: ARM Earnings per Share and Dividends per Share (cents) (Source: McGregor BFA)

Due the number and size of growth projects, the need for cash injection has led to an increase in debt level, with the D/E ratio increasing from 0.3 in 2006 to 0.45 in 2008 (an increase of about 50%).

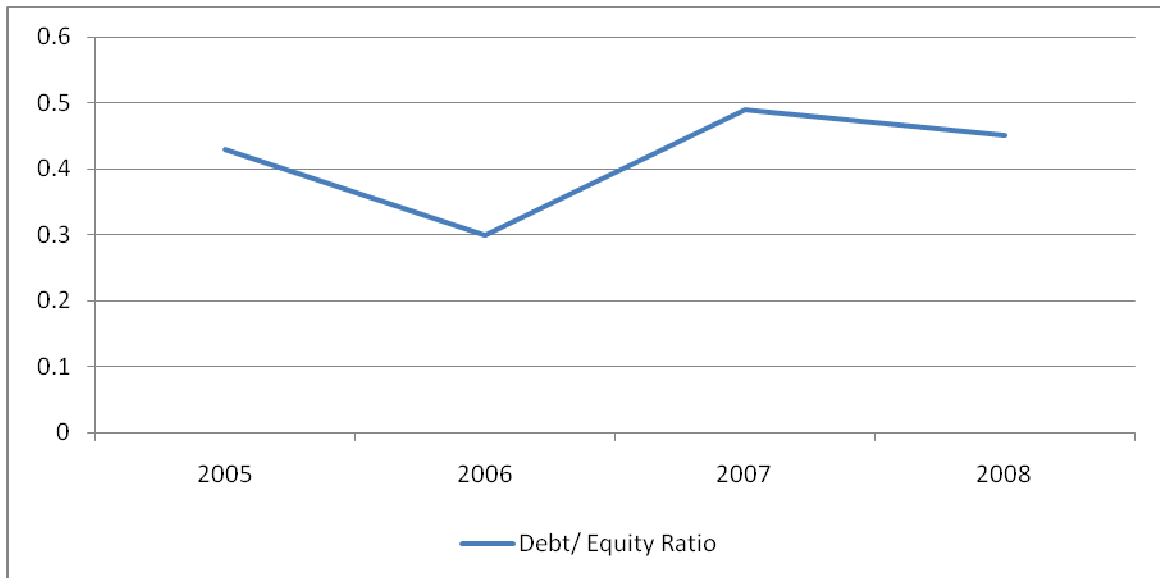


Figure 3.3.2g: ARM Debt/Equity Ratio (Source: McGregor BFA)

Overall assessment

In terms of non-financial parameters, the joint partnership has offered ARM an opportunity to source skills from world-class organisations such as Anglo Platinum, Norlisk, Assore and XStrata through joint management. Production and growth have been promising in all the commodities, with growth projects delivering on schedule.

The only area of concern is unit cost performance. The increases are quite high, even in an environment of high volume increases. In an environment of a steep decline in the prices of platinum group metals, manganese, chrome and iron ore, cost focus will be very critical for ARM to survive and to remain competitive.

In terms of financial metrics, all the parameters look good and trends are positive in most cases. Overall, the non-financial and financial parameters look good, and the acquisition of the assets of Avmin has definitely added value for the shareholders of ARM. The company currently has cash assets of about R2.6 billion as at financial year-end 2008, which places it in a good position to deal

with any future cash problems as the prices of iron ore, manganese and iron ore decline.

Long-term outlook (next five years)

The current global credit crunch and the decline in the demand from China for mineral commodities poses a huge challenge to mining companies. ARM must consolidate on the foundation laid over the past five years through its adequate diversification of commodities and strategic partnerships, and its delivery on operational performance.

Its current cash and net debt position allows it to make further acquisitions, at a time when most mining assets are cheaper and have a market value that is far below their book value. If the focus on cost is maintained, and projects are delivered on schedule (with logistical issues on coal, iron ore and manganese rail transport expected to improve based on Transnet's capital programme), the next five years could be exciting.

3.3.3 Value Assessment of AngloGold / Ashanti GoldFields Merger

Background to the deal

AngloGold was formed in June 1998 through the consolidation of the gold interests of Anglo American Corporation of South Africa (AAC) and its associated companies into a single, focused, independent gold mining company. Its operations were all in South Africa at that time, consisting of the Vaal Reef operations in Klerksdorp, the Free State operations in the Free State, and the Western Deep Levels and Elandsrand operations in Carletonville.

These operations produced about 5.4 million ounces in 2000. Production was, however, on the decline mainly due to depletion of reserves and the technical difficulties involved in accessing deeper portions of the resource. Gold production in South Africa declined to 3.4 million ounces in 2002, and AngloGold needed to look for production outside South Africa to replace its depleting reserves, with the possibility of growing production even further.

Hence, subsequent to its formation in 1998, the company embarked on a series of acquisitions. The acquisitions included the following assets from various countries:

- Minorco Gold in North and South America in March 1999
- Acacia Resources in Australia in December 1999
- A 40% interest in Morila Mine in Mali purchased from Randgold Resources in July 2000
- A 50% interest in Geita Mine in Tanzania purchased from Ashanti GoldFields in December 2000

AngloGold also disposed of some of its assets, including the following assets in South Africa:

- The sale of Vaal River No. 2 Shaft to ARMgold for US\$1 million in January 1998
- The sale of Deelkraal and Elandsrand mines to Harmony in April 2001 for US\$109 million
- The sale of its Free State assets (excluding Beatrix mine) to ARM and Harmony in January 2002 for US\$229 million

The company also disposed of some assets in Australia and the US. Between 2000 and 2002, its total production (with the combined effect of acquisitions and asset disposals) fell by about 23% from 7.2 million ounces to 5.6 million ounces.

Ashanti GoldFields Corporation Limited was founded in 1897 to develop a mining concession in the area of the operations of Obuasi. In 1969, Ashanti became a wholly owned subsidiary of Lonrho Plc (later to become Lonmin Plc). The government of Ghana acquired 20% of Ashanti in exchange for the extension of Ashanti's mining lease over its entire concession area. In 1972, the government of Ghana formed a Ghanaian company to take over the assets, business and functions of Ashanti by holding a 55% stake in the company.

In 1996, Ashanti acquired controlling interests in the Ayanfuri, Bibiani, Iduapriem (in Ghana), Siguiri (in Guinea) and Freda-Rebecca (in Zimbabwe) concessions, as well as an interest in what was then the Geita exploration concession in Tanzania. In 2000, the Geita mine was developed and Anglo acquired 50% in a joint venture.

In 2000, Ashanti also acquired a 90% interest in the Tebirebie mine (in Ghana), adjacent to the Iduapriem concession. Ashanti's gold production was about 1.7 million ounces at that time and this remained fairly constant up to 2003. However, Ashanti undertook a hedging exercise in 2002, which impacted severely on its liquidity following the rise in the gold price. Ashanti's hedge book was a serious threat, and the company also lacked funds for sustaining capital programmes and future growth prospects.

With AngloGold's production on a continuous decline, the purpose of the merger with Ashanti was to position the combined company on the global scale of top producers and provide opportunities for growth. AngloGold's business philosophy also involved hedging, and a substantial amount of its production had been sold forward. Hedging is the forward selling of gold at a predetermined price to guarantee sales at a known price, and is used mainly in periods of high volatility in the gold price. If the future spot price of gold improves, the hedge book becomes a loss, and the opposite happens when the future spot price of gold declines.

Merger description

On 4 August 2003, the two companies announced the merger to create a gold-focused leading global gold producer. The combined group would have the largest reserve base of any gold company, a significant and well-diversified production base, a highly attractive development and exploration portfolio, and the financial and technical resources to maximise organic growth from the existing asset base and to pursue further acquisition opportunities.

The terms of the merger were as follows:

- There would be 0.26 AngloGold shares for every Ashanti share.
- A 12% premium based on the closing share price on 15 May 2003 and a 34% premium based on the 30-day average price prior to 15 May 2003.
- The merged company would be called AngloGold Ashanti.
- AngloGold shareholders would own approximately 87% of the combined group and existing Ashanti shareholders would own approximately 13%.

- The merged company would have a market capital of about US\$8.3 billion.
- The merged company would have its headquarters based in Johannesburg.

Merger objectives

The objectives and expected benefits from the merger were as follows:

- **Growth/Upside Potential:** An enhanced production profile was expected from existing brownfields opportunities, with a strong exploration and land-holding portfolio. AngloGold's proven ability in the development of deep-level projects would be utilised in the development of the Obuasi Deeps project, where a scoping study had been undertaken to review the mine's potential to 100 level, as well as alternative production rates, infrastructure options and operating and capital projections. The Obuasi Deeps project would be allocated an exploration expenditure of US\$44 million over five years to further delineate the target zones, and the total capital expenditure for the project was expected to be about US\$570 million (in 2003 terms).
- **Synergies:** The merger was expected to create financial synergy benefits of approximately US\$15 million per annum through the consolidation of the Geita ownership.
- **Scale:** The merged company would become number one in reserves (93.2 million ounces) – an increase of about 31% for AngloGold. In terms of production, the merger would position it as one of the world's largest gold producers with about 7.3 million ounces – an increase of about 27% in AngloGold's production.
- **Diversification:** The company would have a well-diversified asset portfolio comprising open-pit and underground operations from a total of 24 operations across 11 countries in the principal gold-producing regions of the world.

- **Investment appeal:** In terms of size, the combined company would have a market capitalisation of about US\$8.3 billion, with an increase in share-trading liquidity.
- **Long-life assets:** Six operations in five countries with combined reserves of 45.1 million ounces had life-of-mine plans of at least 15 years.
- **Hedging:** The combined hedge book would have a net delta of 14.7 million ounces as at 30 June 2003, with the combined marked-to-market valuation of negative US\$327 million.

In summary, Ashanti shareholders benefited through a 34% premium, the inflow of cash to address existing capital constraints for future development and high dividend yield (since Ashanti previously did not pay dividends as opposed to AngloGold Ashanti).

For AngloGold, the benefits were the result of a substantial increase in reserves and gold production, market capitalisation, a reduction in cash cost due to synergies, risk diversification geographically and enhanced earnings from improved operational performance.

Value creation parameters applicable

This deal will be assessed on the basis of value creation for AngloGold Ashanti shareholders and the following value creation indicators or parameters will be used:

- Merger objectives in terms of what shareholders expected and what has been achieved.
- The initial market sentiments to the deal will not be used because of lack of information on Ashanti.
- Non-financial parameters, such as access to quality orebodies, access to quality skills, better operating processes (e.g. deep mining technology), growth in production, improvement in operational efficiency, etc. The performance of the Obuasi operation in particular will be discussed,

because this affects the potential of Obuasi Deeps which forms part of the key growth and expansion.

- Financial parameters, such as return on equity (ROE), earnings per share (EPS), dividends per share (DPS), price/earnings ratio (P/E) and debt/equity ratio (D/E). The management of the hedge book and its impact will also be discussed.
- Depending on the information available and where applicable, the non-financial parameters will be measured on past performance compared with current performance. The financial parameters will be measured on past performance and also compared with industry performance.
- The first five years after the deal gives an indication of the medium-term value created. Most of the discussion will therefore be based on value created in the medium term from 2004 to 2008. However, an indication will also be given of the prospects for the next five years for long-term value creation to be realised. It must be noted though that some deals may take less or more than ten years to realise value, but ten years has been chosen as a reasonable period for this study

Medium-term (non-financials)

In terms of growth potential from Obuasi Deeps, an annual exploration expenditure of US\$44 million was committed from 2004 to 2008. The exploration work, which targeted gold potential below the 50 level of the then current mining depth, was, however, not yet completed. The feasibility study on the viability of Obuasi Deeps was therefore yet to be done.

Current exploration work did, however, increase resources at Obuasi by about 4 million ounces, from 38.3 million in 2003 to 42.2 million in 2008. By contrast, reserves were reduced by about 4 million ounces over the same period (including ore depletions). This was due to the substantial increase in the pay limit at Obuasi from 6.06 g/t in 2004 to 9.35 g/t in 2008, an increase of 54%, mainly due to cost pressures. This has the potential to affect the viability of Obuasi Deeps. Figure 3.3.3a illustrates the pay limits from 2004 to 2008 at Obuasi.

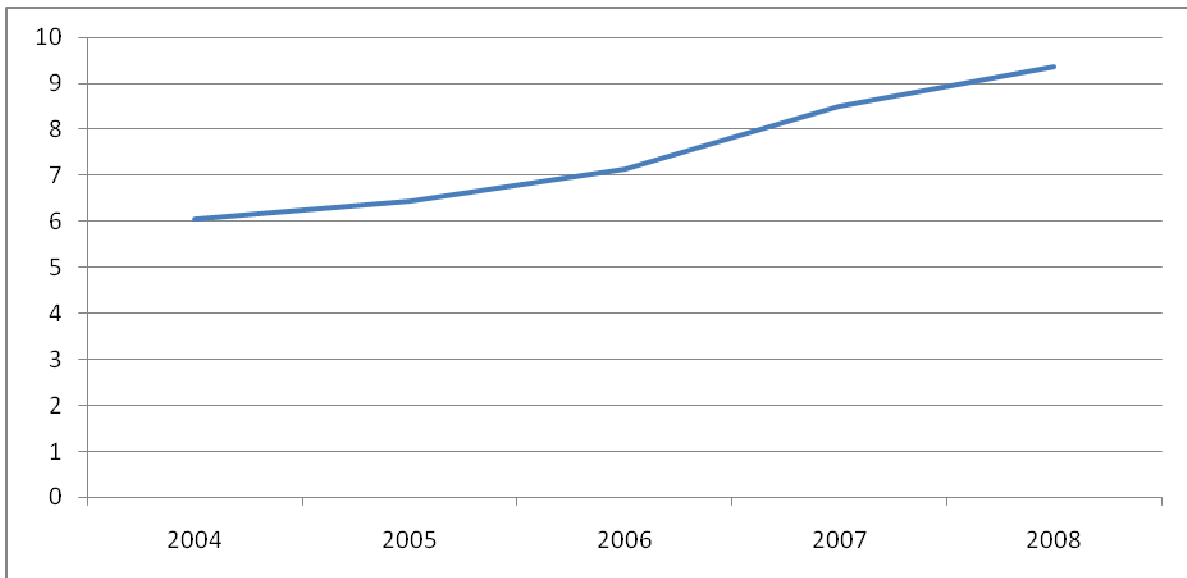


Figure 3.3.3a: Pay Limits at Obuasi in grams/ton (Source: Ashanti GoldFields Annual Reports 2004–2008)

The cash operating cost at Obuasi increased from US\$305/oz (dollars per ounce) in 2004 to US\$633/oz in 2008 – an increase of 108%. This should be compared with the group’s (AngloGold Ashanti) cash operating cost which increased by 66% over the same period, from US\$268/oz in 2004 to US\$444/oz in 2008. Prior to the deal, the cash operating cost had decreased from US\$208/oz in 2000 to US\$198/oz in 2002. The effect of the depreciation of the local currency against the dollar could have been a contributing factor.

The deal also expected cost savings from synergies at the Geita mine (Tanzania) of about US\$20/oz, based on the deal assumption of US\$15 million annual savings and Geita mine’s average annual production of about 0.6 million ounces.

The unit cost (cash operating cost) at Geita did, however, increase from US\$170/oz in 2003 to US\$728/oz in 2008 – a more than fourfold increase. By contrast, in the period prior to the deal, the cash operating cost reduced from US\$198/oz in 2000 to US\$163/oz in 2002. The major cost increase is attributed to a 46% decline in gold production at Geita and inflationary cost pressures. The effect of depreciation of the local currency against the dollar could also be a contributing factor. The mining industry as a whole experienced cost pressures from 2004 to 2008. However, AngloGold Ashanti more than doubled its unit cost

from 2003 to 2006 compared with Harmony, which experienced an increase of about 55% in unit cost over the same period.

Figure 3.3.3b shows the cash cost of Obuasi, Geita and AngloGold Ashanti from 2000 to 2008. The cash costs of Obuasi and Geita are well above group average after the merger.

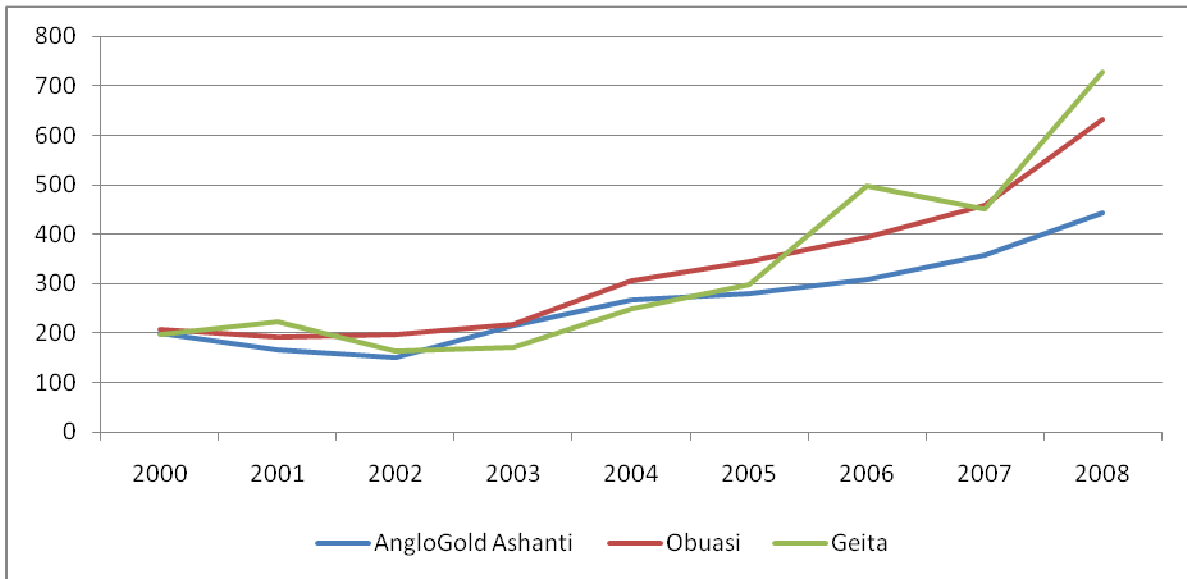


Figure 3.3.3b: Cash Cost of AngloGold Ashanti, Obuasi and Geita in US\$/oz (dollars per ounce)

Sources: Annual Reports, Ashanti GoldFields 2000–2003 and AngloGold Ashanti 2004–2008

It can be seen that cash costs were fairly flat from 2000 to 2003, followed by a dramatic increase from 2004 to 2008, with Obuasi and Geita showing higher trends, which could, among others, be influenced by the depreciation of the local currency against the dollar. The merger has therefore not yielded any benefits in operational efficiency in unit cost terms.

In terms of gold production, group production declined from 6 million ounces in 2004 to about 5 million ounces in 2008. Production at Obuasi and Geita both showed a decline from 2004 to 2008. The major part of the group's gold production decline is due to the South African operations, which declined from 2.9 million ounces to 2.1 million ounces over the same period.

Even though the merger increased the combined group's gold production to over 6 million ounces in 2004, this declined to 5 million ounces in 2008. The expectation that the merger would grow sustainable production for AngloGold, which had seen a decline in gold production of about 1.5 million ounces between 2000 and 2003 prior to the merger, has not been fulfilled. The total production attributable from Ashanti GoldFields has also declined. The merger did, however, account for about 1 million ounces (about 18%) of group production between 2004 and 2008. This is illustrated in Table 3.3.3a and Figure 3.3.1c. The Ashanti GoldFields production is based on production that would have been attributed to Ashanti GoldFields in the absence of the merger, and this involves production from Obuasi, Siguiri and 50% of Geita.

Table 3.3.3a: Ashanti Gold Field's Post-Merger Contribution to Group Production (000 ounces)

Asset	2000	2001	2002	2003	2004	2005	2006	2007	2008
AngloGold Ashanti	7 243	6 983	5 939	5 616	6 052	6 166	5 635	5 477	4 982
Obuasi	641	529	537	513	485	391	387	360	357
Iduapriem/Teberebie	194	205	185	243	147	205	167	167	200
Bibiani	274	253	242	212	105	115	37	0	0
Geita	177	546	580	662	570	613	308	327	264
Siguiri	303	283	269	253	83	246	256	280	333
Ashanti GoldFields	1 501	1 543	1 523	1 552	1 105	1 264	1 001	971	1 022
Ashanti's contribution (%)				27.6	18.3	20.5	17.8	17.7	20.5

Source: Annual Reports, Ashanti GoldFields 2000–2003 and AngloGold Ashanti 2004–2008

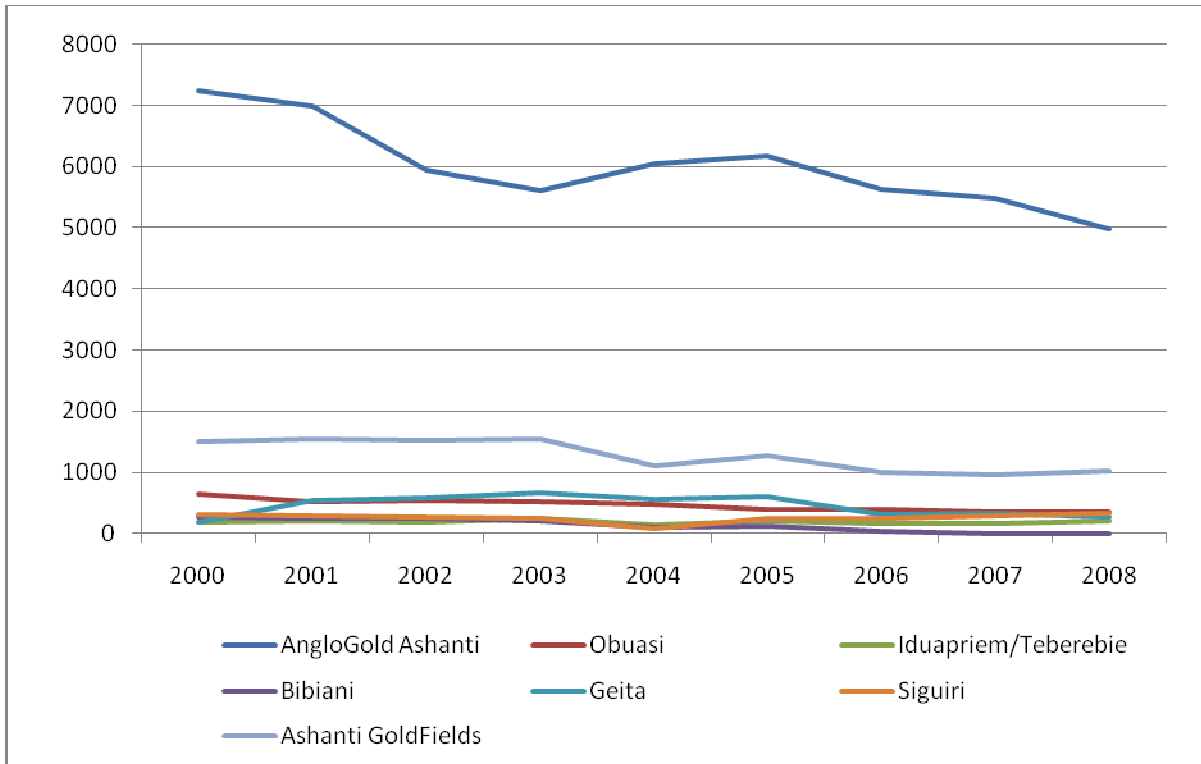


Figure 3.3.3c: Gold Production from the Various Operations Involved in the Merger in (000 ounces)

Sources: Annual Reports, Ashanti GoldFields, 2000–2003 and AngloGold Ashanti, 2004–2008

In terms of diversification, AngloGold Ashanti produces about 20% of its gold from Ghana, Tanzania and Guinea, which involves both open-pit and underground operations. Compared with the South African investment climate, this diversification has not given any major advantage to AngloGold Ashanti. Most of the concerns posed by the MPRDA in 2003 have been addressed by the government. Diversification also comes with risk in terms of regional spread as a result of cultural differences, political uncertainties and the management time required to supervise effectively across countries. The continent has also witnessed unstable and unpredictable developments in investment climates in countries such as Zimbabwe, the Democratic Republic of Congo and Zambia over the past several years.

In terms of quality assets, the Obuasi and Geita operations were reported to be quality assets having over 15 years' life, with the highest production compared

with that of Mponeng and Moab Khutsong in South Africa, Morro Velho in Brazil and the Boddington expansion project in Australia, as shown in Table 3.3.3b.

Table 3.3.3b: Quality Assets of the Merged AngloGold Ashanti Company

Mine	Country	2002 Production (oz)	2002 Cash Cost (US\$/oz)
Geita	Tanzania	579	175
Mponeng	South Africa	466	178
Morro Velho	Brazil	205	131
Obuasi	Ghana	537	207
Boddington Project	Australia	225	147
Moab Khutsong	South Africa	360	129

Source: Internal report on merger, www.anglogold.co.za

The production and cash cost of Moab Khutsong were estimates based on 2002 projections. The unit cost of Obuasi and Geita are a cause for concern and Geita's production is on the decline.

In terms of skills, the merger only brought two directors from Ashanti to the merged company and was also marred by the resignation of the ex-CEO of Ashanti, Sir Sam Jonah, in 2006. The deal intent was to make use of AngloGold's expertise in operating deep-level gold assets to unlock the potential of Obuasi Deeps.

In terms of hedging, both companies were involved in forward sales commitments of future gold production. The intention was to combine the two hedge books into one and manage them together as one entity. The nature of the hedging in place at Ashanti and AngloGold as at June 2003 is illustrated in Table 3.3.3c.

Table 3.3.3c: Hedge Position of Ashanti and AngloGold as at June 2003

Asset	2002 Production (M oz)	Hedge Delta (M oz)	Marked to Market (US\$ m)
AngloGold	5.939	8.7	-179.3
Ashanti	1.626	6.0	-147.6
Combined	7.565	14.7	-326.9

Source: Internal report on merger, www.anglogold.co.za

The hedge delta shows the gold ounces that the company must buy to neutralise the portfolio position based on the spot price at that time. The marked-to-market adjustment is the value lost or gained as a result of the spot price relative to the hedged price. When the spot price is lower than the hedged price, value is accrued and the marked-to-market adjustment is positive and vice versa.

Hence at the time of the deal, the hedge book resulted in a net loss of US\$326.9 million for the merged company. The effect on the spot price and the hedge book of Ashanti as at December 2000 is illustrated in Table 3.3.3d.

Table 3.3.3d: Ashanti GoldFields Hedge Book Sensitivities as at December 2000

Spot Price (US\$)	Ounces Delivered (M oz)	Average Price (US\$/oz)	Cash flow (US\$ million)
250	5.460	370	656.27
300	5.660	365	365.97
350	7.056	351	9.30
400	9.822	353	-458.60

Source: Ashanti GoldFields Annual Report 2000

The number of ounces delivered indicates how many ounces Ashanti would sell through forward sales, as well as calls and puts, bought and sold, which would be exercised under the various assumed spot prices. The effects of all lease rate–swap rate sets have been included in the average price and cash flows. In essence, a one dollar (US\$1) movement in the spot price of gold results in a US\$6.75 million movement in cash flow (marked-to-market value).

The effect of the hedge book from 2005 to 2008 can be summarised as follows, based on AngloGold Ashanti’s annual reports:

- As at year end December 2005, the net delta hedge was 10.84 million ounces valued at a spot price of gold of US\$517/oz and the marked-to-market value as at that date was negative US\$1.941 billion.
- As at year end December 2006, the net delta hedge was 10.16 million ounces valued at a spot price of gold of US\$636/oz and the marked-to-market value was negative US\$2.903 billion.

- As at year end December 2007, the net delta hedge was 10.39 million ounces valued at a spot price of gold of US\$836/oz and the marked-to-market value was negative US\$4.27 billion.
- Following the raising of US\$1.7 billion in capital through a rights offer, the net delta hedge was reduced from 11.28 million ounces to 5.22 million ounces, using a gold price of US\$872/oz and the marked-to-market value was negative US\$2.5 billion as at year end December 2008.

The hedge book had a major impact on the cash flow of the merged company, and will continue to impact the net delta hedge over the next five years as the spot price of gold continues to increase.

Medium-term metrics (financial parameters)

The medium-term financial metrics will consider return on equity (ROE), earnings per share (EPS), dividends per share (DPS), price/earnings ratio (P/E) and debt/equity ratio (D/E) over the period of five years (from 2004 to 2008).

The assessment will compare it with the three years prior to the deal (2000 to 2002), with other JSE-listed gold companies (specifically GoldFields and Harmony) and also discuss trends (see Figures 3.3.3d to 3.3.3h).

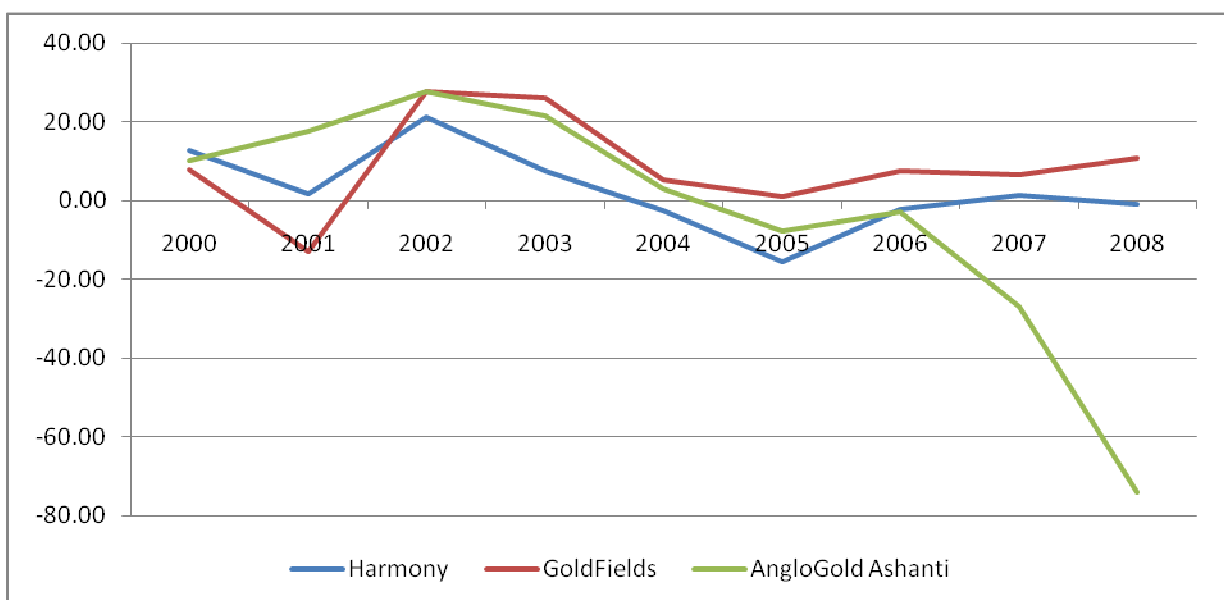


Figure 3.3.3d: Comparison of Return on Equity (%) (Source: McGregor BFA)

Measured against past performance, ROE showed a steep decline, especially from 2006 to 2008. Measured against its peers, AngloGold Ashanti showed the same ROE trend as GoldFields and Harmony between 2003 and 2006, with a steep decline from 2006 to 2008. AngloGold Ashanti's ROE underperformed its industry peers. Shareholders of AngloGold Ashanti would therefore have had better returns had they invested in GoldFields or Harmony in 2007 and 2008.

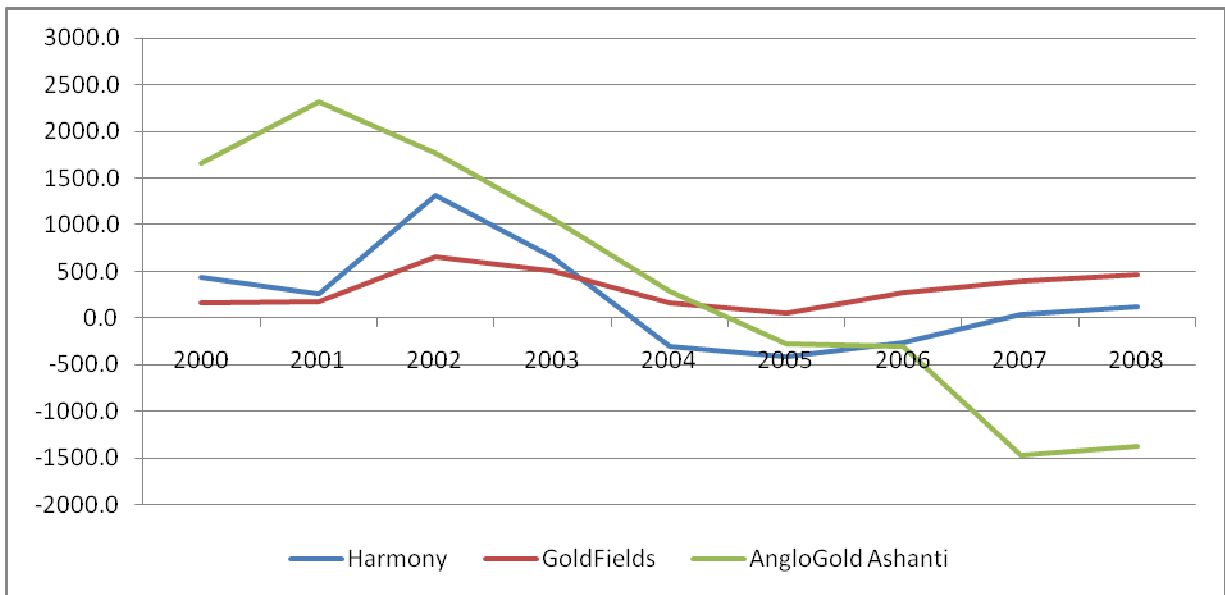


Figure 3.3.3e: Earnings per Share (South African cents per share) (Source: McGregor BFA)

Measured against the past, EPS showed a decline from 2003 to 2007, after which a slight positive improvement was shown in 2008. Compared with its peers, AngloGold Ashanti shows a similar trend to GoldFields and Harmony between 2003 and 2004, but then shows a drastic decline from 2005 to 2008 while the EPS of its peers improves over the same period. The company's EPS is worse than that of its industry peers. Its earnings per share were better than those of its peers prior to the deal and worse from 2005 to 2008.

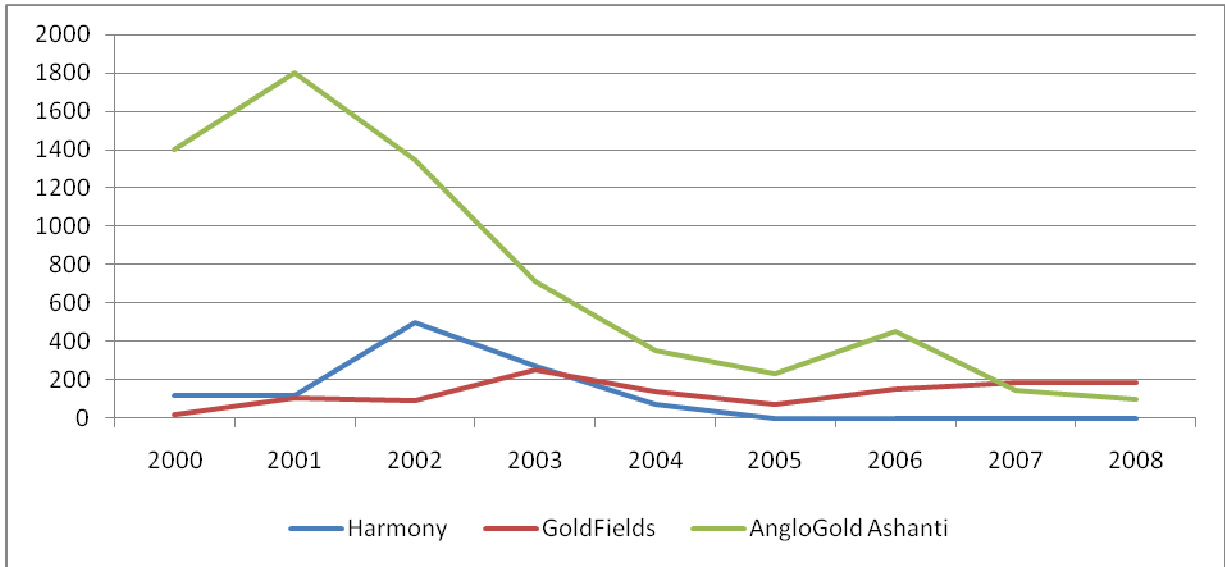


Figure 3.3.3f: Dividends per Share (South African cents per share) (Source: McGregor BFA)

AngloGold Ashanti’s dividends per share showed a decline compared with the past, showing a similar trend to its peers between 2003 and 2005. However, between 2006 and 2008, it slightly underperformed compared with GoldFields and did better than Harmony which has not paid a dividend since 2008. Looking at the losses incurred since 2006, paying a dividend may not be a prudent thing to do, especially when assets have been disposed of and cash has been raised to manage the hedge book.

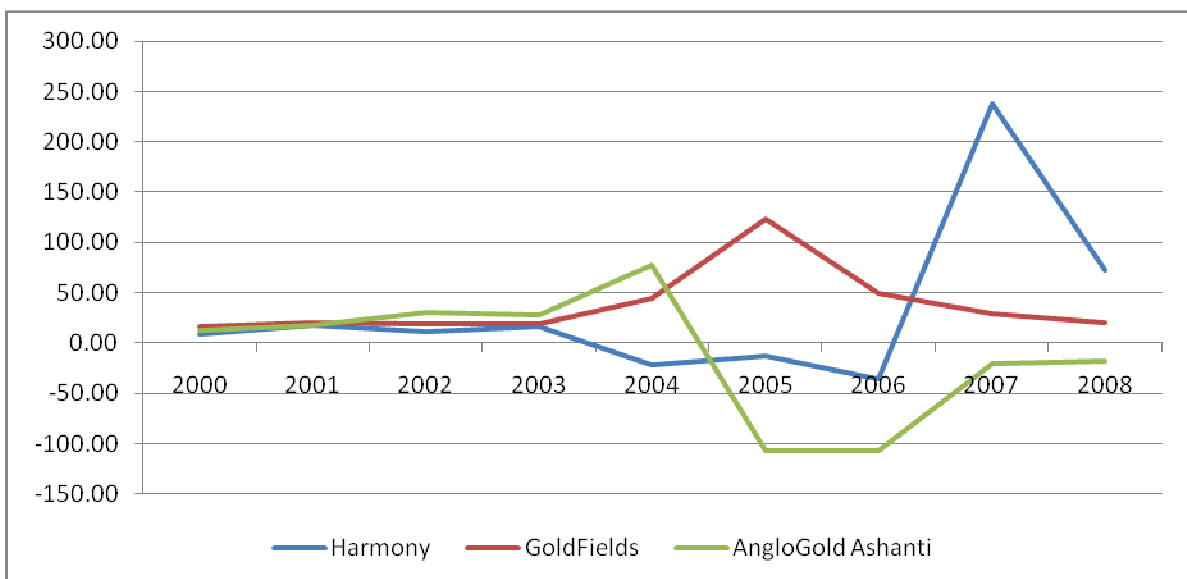


Figure 3.3.3g: Price/Earnings Ratio (Source: McGregor BFA)

AngloGold Ashanti's P/E ratio was significantly lower from 2005 to 2008 compared with its past. Compared with its peers, its P/E ratio was about the same between 2000 and 2003, but was significantly lower than that of its peers between 2005 and 2008. Compared with its peers, it showed an improvement in trend from 2006 to 2008.

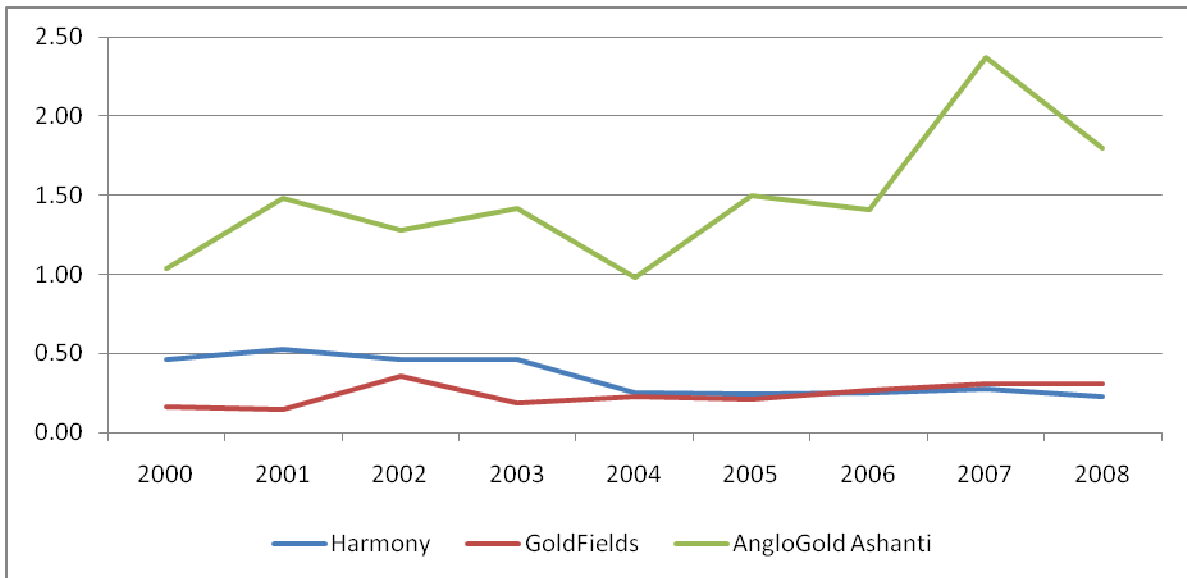


Figure 3.3.3h: Debt/Equity Ratio (Source: McGregor BFA)

Compared with the past, AngloGold Ashanti's D/E ratio has increased almost twofold, which implies that for every dollar of equity, the company has two dollars of debt. Compared with its peers, AngloGold Ashanti's D/E ratio is about fourfold to sixfold higher. This implies that shareholders in AngloGold Ashanti are highly exposed to debt, and this has the potential to lead the company into bankruptcy (when its liabilities exceed its assets) and can also pose solvency problems when it is not able to service its debt on time.

Debt or equity, or a combination of both, is usually the means through which a company raises funds for its operations. Normally one would expect a company with a high D/E ratio to show a higher return on equity, but in the case of AngloGold Ashanti, it also has the lowest return on equity compared with its peers. The company has also disposed of assets to raise cash, in addition to acquiring debt to service its cash requirements. The impact of the hedge book on the company's financial ability has been enormous.

Overall deal value assessment

In terms of deal objectives, AngloGold Ashanti has not achieved most of the deal objectives set for the merger. The assets from Ashanti have not provided opportunities for production growth and have actually shown a decline in production. The Obuasi Deeps exploration is ongoing and has added considerably to Obuasi's resources. However, the pay limit trend of Obuasi is likely to affect the potential of the project, and less mining reserves could be accounted for below 100 level, unless the pay limit improves.

There was an expected cost benefit of about US\$20/oz at Geita due to synergy, which means one should expect the cost profile at Geita to show an improvement over past performance. However, on the contrary, the cost profile of Geita is a cause for concern as the unit cost has increased about fourfold since the merger.

In terms of diversification, the assets in Ghana and Tanzania have not offered any significant or unique opportunity to AngloGold Ashanti by virtue of their location, geographically and politically. Despite the fact that Obuasi and Geita were acquired as long-life assets, Obuasi made a loss of US\$126 million and Geita made a loss of US\$181 million in 2008, with disappointing performances in 2006 and 2007. These assets may no longer remain quality assets if these losses are not curtailed.

Hedging has done severe damage to the financial position of the merged company. The net delta hedge of gold continued to increase as the spot price of gold increased substantially from 2003 to 2008. This meant the company had to use more gold to settle the hedge book requirements as they became due. Furthermore, actual gold production declined between 2003 and 2008. The net effect has been a drastic marked-to-market adjustment and resulted in the company committing most of its annual gold production to manage its hedge book.

Despite the US\$1.7 billion cash injection to reduce the hedge book position in 2008, there is still a negative US\$2.5 billion outstanding, based on an assumed spot price of gold of about US\$875/oz. Prior to the US\$1.7 billion cash injection, the hedge book was a negative US\$4.2 billion, accounting for about 40% of the market capitalisation of AngloGold Ashanti. At the time of the merger, the hedge

book was valued at negative US\$326 million, and this grew about fourteen times (14x) bigger from 2003 to 2008. Ashanti's portion of the hedge book was about half in terms of ounces, yet its production was about 25% of that of AngloGold. This enormous burden has been transferred to the merged company.

Hence shareholders of Ashanti saw the merger as an opportunity to get out of the financial crisis the hedge book was posing. At the same time AngloGold believed it could extract more value even with the hedge book concerns, and paid a premium of about 30% to Ashanti shareholders in the share swap deal.

Considering other non-financial indicators, the deal did not bring any substantial skills to AngloGold. In terms of operating processes and systems, there is not much evidence that improved processes and systems were put in place to enhance the performance of Ashanti's assets. AngloGold, however, will bring skills into the Obuasi Deeps feasibility study and, if given the go-ahead, project execution and operation of the deeper mine will be enhanced using its technical experience and expertise.

Looking at the financial indicators, AngloGold Ashanti has performed poorly compared with its past and its industry peers in terms of ROE, EPS, P/E ratio and D/E ratio. Its payment of a dividend under such dire financial circumstances may not be prudent, even though it appeases shareholders, considering the cost of debt in the current global financial crisis. The gradual and eventual exit of its major shareholder Anglo American over the past three to five years only confirms the critical state in which the operation is, and the merger has to a large extent destroyed value for shareholders.

Looking beyond (next five years)

In the next five years, the gold price is set to increase and is likely to stay above US\$1 000 per ounce. This implies that the hedge book delta and the marked-to-market adjustments will continue to be less favourable.

The production profile in terms of gold ounces produced is likely to follow a downward trend, as safety and power issues in South Africa continue to affect underground operations which are getting deeper. Production from Obuasi and Geita will also be on a decline due to depletion of reserves at Geita and the fact

that the Obuasi Deeps underground project will take not less than five years to commission, if at all, should it get board approval following the feasibility study.

AngloGold Ashanti's unit cash operating cost in terms of US\$/oz increased more than twofold between 2003 and 2008. The company's debt position is very high, and funding requirements will become a challenge, especially with the exit of its major shareholder, which might send signals of caution to any potential investor.

The next five years will be very challenging years for AngloGold Ashanti and its performance will be determined by, among others, its ability to manage cost, its hedge book and the creation of investor confidence as it seeks to rebrand itself following the exit of Anglo American.

3.3.4 Value Assessment of Kumba Resources/Eyesizwe (Exxaro) Merger

Background to the deal

Iscor Mining was unbundled from its parent company, Iscor Limited (which became Mittal Steel South Africa in 2005 and is now known as ArcelorMittal) in 2001 and was renamed Kumba Resources; it listed on the JSE in the same year.

At the time of Iscor's unbundling, its mining division (Iscor Mining, which later became Kumba Resources) had provided a secure supply of iron ore, coal, zinc and certain industrial minerals used in steel production, together with its two iron ore mines and minerals sands which became part of Kumba. Within five years, Kumba Resources had built a portfolio of assets in Africa, Asia and Australia. Its key major operations were the iron ore operations at Sishen (Sishen Iron Ore) and its coal operations (Grootegeluk Colliery) in the Waterberg in Limpopo province.

Eyesizwe Coal was formed in 2000, through a consortium of interested parties, to bid successfully for certain coal assets of Anglo Coal and Ingwe (now BHP Billiton Coal SA). These coal assets were operating mines located in Witbank, Kriel, Middelburg and Belfast, and produced about 23 million tons of coal in 2002. Most of the coal was thermal coal from its main collieries Matla and Arnot for local Eskom consumption. Eyesizwe also acquired a significant coal resource in the Waterberg area with a resource estimate of over 2 billion tons of coal.

In 2003, Kumba and Eyesizwe entered into a 50/50 joint venture, to develop the Kalbasfontein Project. This was a result of a process initiated by the two companies in 2001 to explore synergies and coal partner opportunities.

In October 2005, the two companies announced a merger deal, which led to the creation of two separate and focused entities, namely Kumba Iron Ore (to manage the iron ore assets of Kumba Resources) and Exxaro (which would combine the coal assets of Eyesizwe with the coal, base metal and mineral sands assets). The transaction was also aimed at fulfilling the requirements of the Mining Charter in terms of black economic empowerment.

Details of the transaction

The transaction, as reported at the time of the deal announcement, was summarised as follows:

- (a) 80% of Kumba Resources' interests in Sishen Iron Ore Company (SIOC) would be transferred to a newly named company, Kumba Iron Ore.
- (b) A new company would be formed (Newco, which later became Exxaro), which would have significant coal, heavy minerals and zinc assets, together with a 20% holding in SIOC.
- (c) Kumba Resources' existing shareholders would hold shares in both companies in proportion to their existing shareholdings in Kumba Resources prior to the unbundling.
- (d) Newco would acquire the entire issued share capital of Eyesizwe Coal (Pty) Ltd.
- (e) All the Eyesizwe Coal shareholders would, through a special purpose vehicle (SPV), utilise the cash received to subscribe for shares in the BEE Hold co (holding company).
- (f) The BEE Hold co would, through a series of transactions, acquire and exercise control over 55% of the Newco issued share capital.
- (g) A Consortium comprising Eyabantu Capital (Pty) Ltd, Tiso Group and the South African Women in Mining Association, through SPVs and the IDC,

would subscribe for shares in the BEE Holdco through the injection of either cash or Newco shares.

- (h) Shares in Newco and SIOC would be issued to an employee share ownership scheme (ESOP) and the Northern Cape community.

The transaction would result in a Newco and Kumba Iron Ore (KIO) that would have different and focused business portfolios. The Newco would:

- (a) Have an enterprise value of approximately R16 billion
- (b) Become the second largest titanium slag producer and the third largest titanium feedstock and zircon supplier globally
- (c) Become the fourth largest coal producer in South Africa, producing 45 million tons of coal annually.
- (d) Have a significant interest in iron ore through its 20% stake in SIOC.
- (e) Have a significant greenfield and brownfield project pipeline to exploit its significant reserve and resource base.
- (f) Have significant financial ability to expand its business, with an initial debt level of R0.8 billion which would increase later to R3.25 billion (20% of enterprise value)

The unbundled Kumba Iron Ore would:

- (a) Have an enterprise value of R14 billion
- (b) Offer significant iron ore growth opportunities particularly in South Africa, with production targeted to increase from 32 million to 42 million tons per annum by 2008
- (c) Be a subsidiary of Anglo American Plc

Merger objective

The proposed empowerment transaction would result in the following:

- (a) Exceeding the requirements of the Mining Charter in terms of BEE ownership through the creation of a Newco which would be 55% owned

and controlled by a BEE Holdco and would improve the lives of employees and communities through employee share ownership schemes (ESOPs), of which the majority would be black employees and vendor funding

- (b) Creation of two separate and focused business entities that would grow value for shareholders and their listing on the JSE
- (c) Growth opportunities from greenfield and brownfield project pipelines, mainly in coal and iron ore operations
- (d) Gaining the financial ability to expand its business
- (e) Establishment of Newco, as a diversified mining company with an attractive investment case which would be well positioned strategically and financially to take advantage of growth opportunities in the South African mining sector

Value creation parameters applicable

Normally, three to five years is a fair period to make an initial assessment of a mining deal, and thereafter, another five years for long-term value assessment and future prospects. The Eyesizwe and Kumba Resources merger transaction was concluded about two years ago, and this makes it difficult to see the benefits and challenges of the full implementation. Nonetheless, an initial assessment of the value created for shareholders and future potential will be made using the following parameters:

- (a) Merger objectives in terms of what was expected and what has been achieved so far will be reviewed.
- (b) The initial market sentiment cannot be assessed using the DVA parameter because both companies would have to be listed and, in this case, Eyesizwe was not listed.
- (c) The non-financial parameters that will be used for Exxaro include access to quality orebodies, access to skills, better operating processes, growth in production, further pro-merger deals achieved due to empowerment status, growth in production from existing operations and project pipelines, and compliance with legislation. Since the majority of Exxaro's earnings

come from the coal division, only the coal asset performance will be assessed. For KIO, since it was the unbundling of an entity to create focus and grow wealth, parameters such as growth in production, operational efficiency (in terms of unit cash operating cost) will be considered.

- (d) Financial parameters will consider ROE (return on equity), EPS (earnings per share), DPS (dividend per share), P/E (price/earnings) ratio and the D/E (debt/equity) ratio. Depending on the availability of information, supplementary financial parameters may be used as well.
- (b) The financial parameters would normally have to be benchmarked against past performance and industry performance. In the case of KIO, it is the only iron ore company listed on the JSE, and probably only the iron ore operations of Khumani Iron Ore of Assmang would be a suitable benchmark, but it is not operating as a separate entity. In terms of past performance, the financial parameters were reported at group level (involving other commodities) prior to the merger, and therefore a fair comparison cannot be made. In the case of Newco, Eyesizwe was not a publicly listed company, hence historical financial and operating figures are not in the public domain. In terms of benchmarking, probably the only diversified mining company listed on the JSE that could be used is African Rainbow Minerals. However, their asset compositions vary to some extent, and such a comparison must take note of key differences. In the light of the above, the performance of the past two years will be used just for information and discussion purposes. The impact of earnings from KIO on Exxaro's total earnings will also be considered.
- (c) Only the period 2007 and 2008 will be used for post-merger assessment and, where available, 2005 and 2006 figures will be used for pre-merger performance.

Non-financial value assessment

In terms of legal compliance, the Newco (Exxaro) and KIO (Kumba Iron Ore) fulfilled the requirements for BEE to comply with the Mining Charter. Exxaro has 55% BEE ownership and Kumba Iron Ore has 26% BEE ownership. Kumba Iron

Ore obtained their new order mining licence in 2008 according to their 2008 Annual Report, and Exxaro, with its current BEE ownership, complies with licence conversion requirements.

In terms of access to skills, both companies contributed to the board and executive management of the newly formed company. In terms of open-pit mining, which will become the future of the Exxaro coal business, Kumba Resources brings vast experience and expertise in building and operating huge open-pit mines.

In terms of access to quality orebodies, the merger brings a substantial amount of coal resources in the Waterberg area. This has created a regional dominance and also offers an opportunity for synergy between these assets which are in the exploration stage. The Grootegeeluk West project has a total resource of about 6 billion tons of coal, and the Waterberg South and North projects together have a total coal resource of about 3 billion tons. This has enabled Exxaro to expand its operations to meet Eskom coal requirements for additional power stations in the Waterberg area, and also enabled the inland coal-to-liquids joint venture agreement with Sasol for Project Mafutha, although Exxaro has since announced that it will not pursue this joint venture due to capital constraints.

Exxaro's empowerment status has assisted it in obtaining mega deals, such as the agreement with state utility Eskom in 2008 to supply 14.6 million tons of power station coal annually for 40 years from the Grootegeeluk mine to the adjacent Medupi power station, currently under construction. Project Mafutha, which will supply Sasol's new inland coal-to-liquids project, requires 20–30 million tons of coal per annum to produce 80 000 barrels of fuel per day. These deals are very significant in exploiting the vast resource potential of Exxaro in the Waterberg, and also in creating substantial shareholder value over and above what was anticipated during the merger. Exxaro has also in the past considered feasibility studies to increase the Richards Bay Coal Terminal (RBCT) rail capacity between the Waterberg and the RBCT, with the possibility of producing export-quality coal from the Waterberg area.

These opportunities could, however, significantly alter Exxaro's debt position, depending on the type of funding that is used. This could be cash from operations

(which could impact on dividends paid, which are critical for BEE entities to fund their debts), use of share capital (which could lead to share dilution and could also alter the BEE percentage) or use of debt (which is very difficult and expensive to obtain in the current global economic crunch), or a combination of these funding sources. These huge opportunities could therefore also pose a huge threat to Exxaro's financial stability in terms of how they are dealt with and the timing.

Regarding operating processes, the Grootegeluk operation is a world-class asset in terms of its operating philosophy, processes and systems, and can be used as a model for future expansion projects in the Waterberg area. The unit cash operating costs of Exxaro coal assets are not available for determination of its operational efficiency. The unit operating cost (cash cost per ton) for the Sishen and Thabazimbi operations are available. Since about 92% of production comes from Sishen, its operating performance in terms of unit cost and production profile will be used as an indication of how well the iron ore operations are performing.

Sishen Iron Ore's cash operating cost increased by 1.6% from R68.8/ton in 2005 to R69.9/ton in 2006. From 2006 to 2007, its cash operating cost increased by 6.3% from R69.9/ton to R74.3/ton. However, from 2007 to 2008, the cash operating cost at Sishen increased by 37.1% from R74.3/ton to R101.9/ton. The unit cost performance in 2006 and 2007 was good, but that of 2008 is cause for concern. Despite the normal expectation of unit cost reduction as volume increases, the trend in plant yield, which reduced from 89.4% in 2005 to 82.5% in 2008, is a contributing factor.

The unit cost trend and plant yield are depicted in Figures 3.3.4a and 3.3.4b.

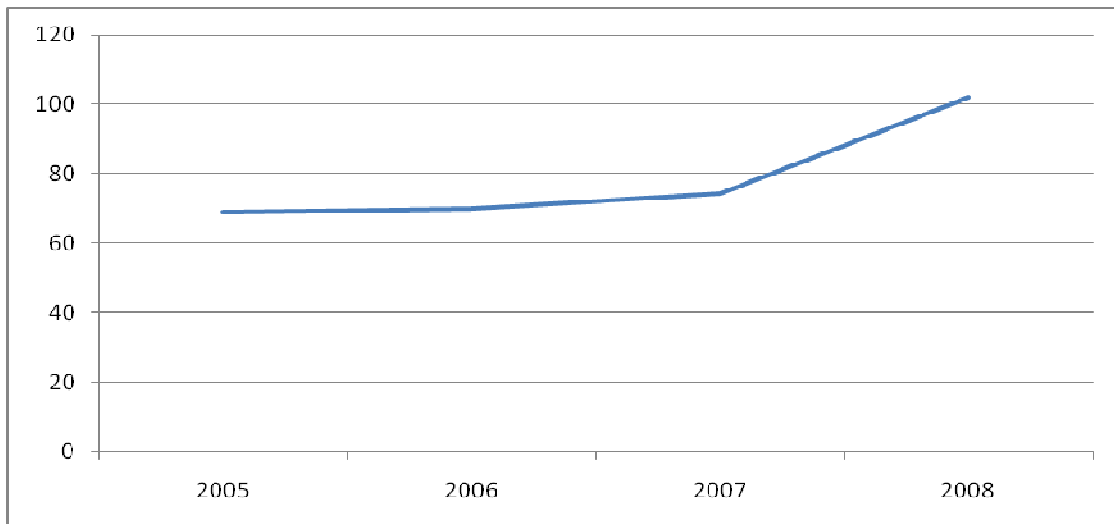


Figure 3.3.4a: Cash operating Cost at Sishen (R/ton) (Source: Kumba Iron Ore Annual Reviews, 2006–2008)

The plant yield has been on a continuous decline; this is normally due to plant feed, the type of product expected and the metallurgical process efficiency.

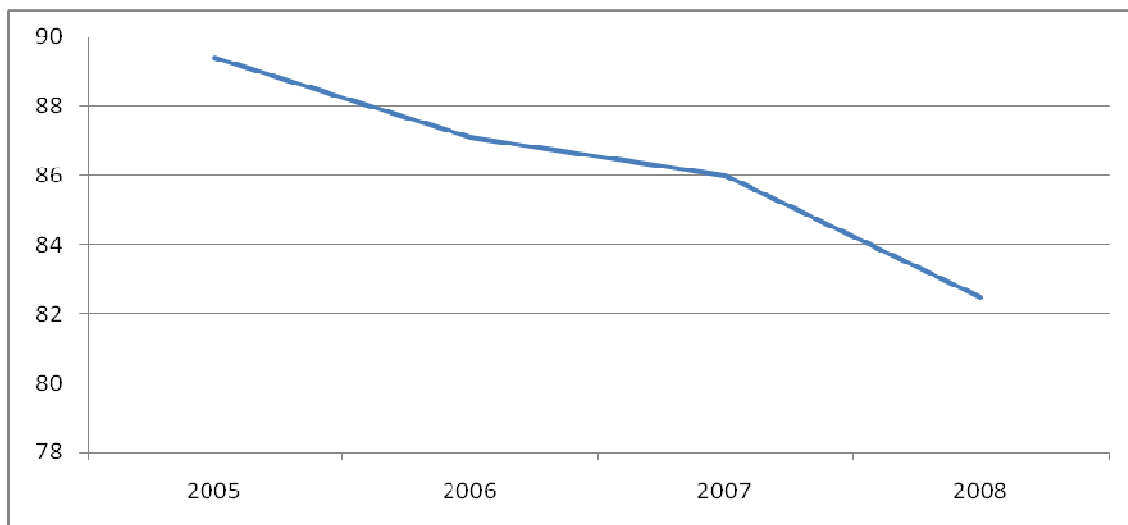


Figure 3.3.4b: Metallurgical Plant Efficiency at Sishen (%) (Source: Kumba Iron Ore Annual Reviews, 2007–2008)

In terms of production and growth, Sishen’s run-of-mine ore production has increased by about 40% – from 31.7 million tons in 2005 to 44.6 million tons in 2008, which is a remarkable achievement. The approval of the 9 million tons per annum Sishen South project, despite the decline in iron ore prices, will further consolidate growth in production. Sishen’s production profile is illustrated in Figure 3.3.4c.

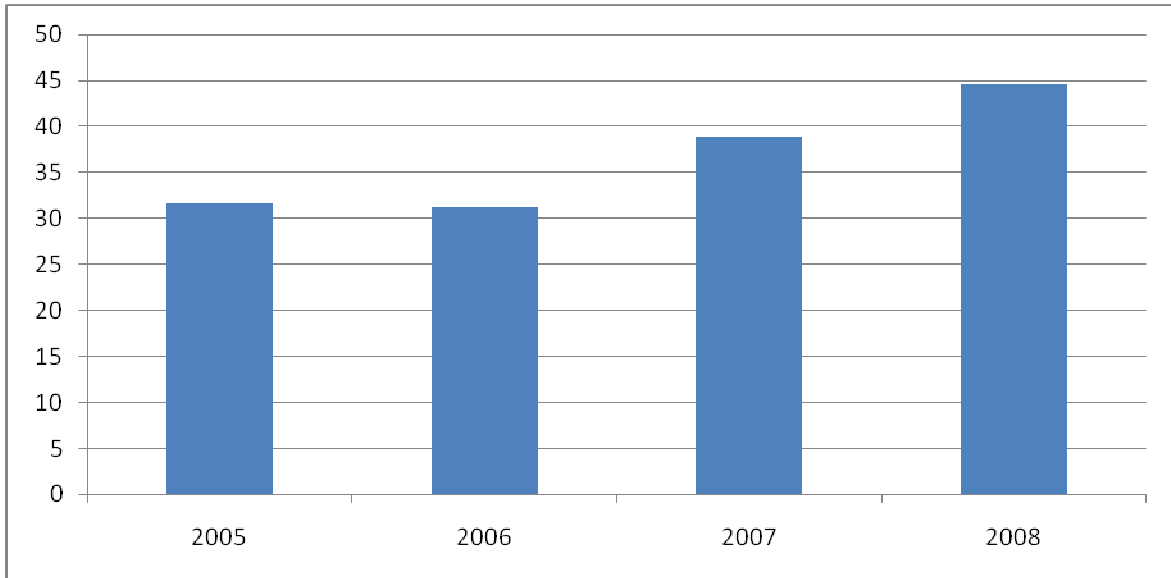


Figure 3.3.4c: Sishen Iron Ore Production (Run of Mine) in million tons (Source: Kumba Iron Ore Annual Report 2007 and Annual Review 2008)

Production at Exxaro’s coal operations also showed an increase of about 12.8% – from 20.3 million tons in 1H07 (first half of 2007) to 22.9 million tons in 2H08 (second half of 2008). This is shown in Figure 3.3.4d. Coal production increased for all the various types of coal, except for coking coal which showed a slight decline in 2H08 due to lower demand.

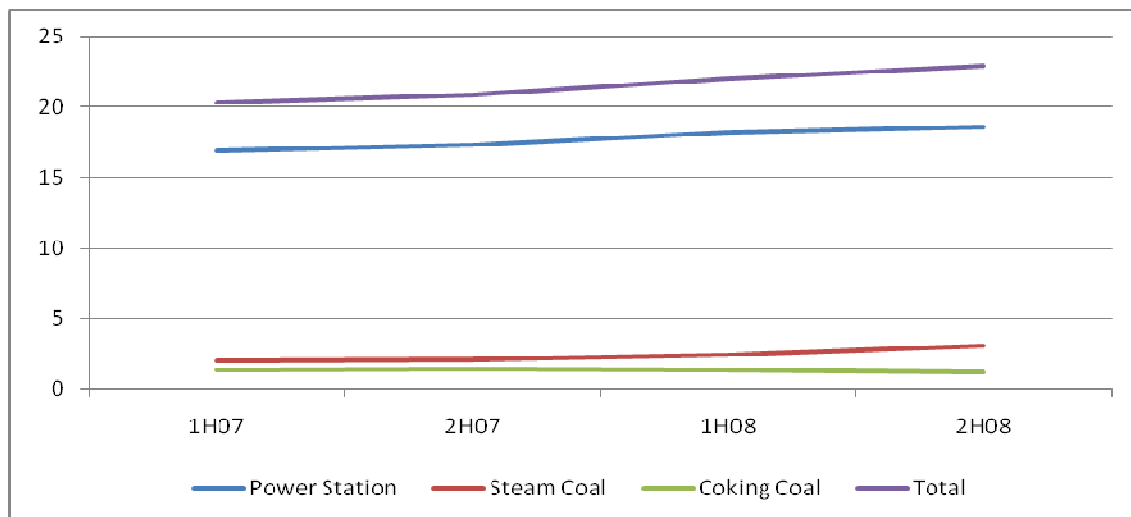


Figure 3.3.4d: Exxaro’s Coal Production in million tons (Source: Exxaro Interim Report 2009)

In terms of growth, additional annual production of about 14.6 million tons will be delivered from the Grootegeluk operation at full production in 2014 to the Medupi

power station, with first coal supply expected in the last quarter of 2011. This will be an increase of about 64% over the current total annual coal production of 22.9 million tons. Additional coal production is also expected from the growth pipeline, such as Project Mafutha, Moranbah South Reserve, Diepspruit Reserve, etc.

Hence in terms of growth, the merger has delivered on expectations at Exxaro and Kumba Resources, notably in the coal and iron ore assets.

Financial value assessment

The typical parameters that would normally be used are ROE, EPS, DPS, P/E ratio and D/E ratio. These would normally be compared with past performance; in addition, trends would be examined and there would be benchmarking against the industry. In this particular case, however, Exxaro and Kumba Iron Ore were listed on the JSE in 2006, and we therefore have only two years of information available. Both companies are also a bit difficult to benchmark, as Kumba Iron Ore is the only JSE-listed sole iron producer. Exxaro can to some extent be benchmarked with African Rainbow Minerals. However, it will be more appropriate to do this benchmarking after three to five years of performance.

For the above reasons, the performance of Exxaro and Kumba Iron Ore will simply be compared year on year for improvement, and also generally commented on in terms of the actual numbers (see Table 3.3.4). Other relevant parameters, such as the share price performance of Kumba Iron Ore relative to the JSE General Mining Index and the cash generated from operations, will be used to supplement Kumba Iron Ore's performance because of the unavailability of some of the 2007 figures.

Table 3.3.4: Financial Value Assessment of Exxaro and Kumba

	2007 Exxaro	2008 Exxaro	2007 ARM	2008 ARM	2008 Kumba
Return on equity (%)	47.22	N/A	11.22	30.14	105.09
Earnings per share (cps)	425	1058	580	1906	2302
Dividend per share (cps)	160	375	150	400	2100
Price/earnings ratio	23.6	6.48	21.49	15.06	6.93
Debt/equity ratio	0.3	0.54	0.49	0.45	0.85

Source: McGregor BFA

In terms of ROE, EPS, DPS, P/E ratio and D/E ratio, Exxaro compares quite well with African Rainbow Minerals (ARM). Kumba's performance looks even better with earnings of 2,100 cents per share, ROE of 105% and handsome dividends of 2 100 cents per share paid. Earnings have grown substantially and the P/E ratios are healthy.

The D/E ratio has, however, been the only indicator of concern, considering the fact that one of the intentions of the deal was to keep debt to a maximum of 20% of enterprise value of Exxaro. However, with the unanticipated growth opportunities offered by the Grootegeluk expansion, as well as the pipeline of projects, the need to raise cash to fund these opportunities is a business imperative. One of the cheapest and perhaps less risky means of raising funds for future expansion is normally cash from operations and equity (issuing more shares, depending on the share performance of the company) considering the global credit crunch and sometimes the difficulty of securing debt, but Exxaro also has the challenge of BEE equity dilution. The challenge will therefore be the ability of Exxaro to settle these debt facilities as they become due. It will also need to improve efficiency and/or sweat existing assets to raise funds internally to finance the growth of its projects.

Kumba Iron Ore also has a fairly high D/E ratio, but it would have been better to compare this ratio with a historical figure to evaluate the extent of the impact of the current growth projects, most notably the R8.5 billion investment in the Sishen South project in the current environment of decline in iron ore prices and demand from China. The project is also dependent on Transnet's commitment to its R4 billion expansion and upgrading programme.

It must be noted, though, that Kumba generated R5.8 billion and R14.5 billion of cash in 2007 and 2008 respectively, and therefore has the ability to fund its debt. However, of the R14.5 billion cash achieved in 2008, about R7 billion (almost 50%) was paid out as dividends. One would expect lower dividends in an environment of growth as opposed to the risk of acquiring more debt, with the expectation that the operations will continue to deliver substantial cash. The current decline in platinum prices was a lesson for most companies that took on substantial debt with future cash projections based on prevailing platinum prices.

However, with most of the BEE partners securing loans to fund their participation in the deal, dividends are necessary to settle these loan facilities as they become due. Exxaro is also highly dependent on Kumba Iron Ore’s earnings. The attributable earnings from Kumba Iron Ore are normally about 70–90% of the net operating profit achieved by Exxaro alone. For instance, in 1H08 the attributable earnings from Kumba were R753 million, compared with Exxaro’s R806 million (91%); in 2H08 the attributable earnings from Kumba were R1.12 billion compared with Exxaro’s R1.66 billion (67%), and in 1H09 the attributable earnings from Kumba were R868 million compared with Exxaro’s R953 million (91%).

Hence Exxaro’s 20% stake in Kumba Iron Ore has been, and will continue to be, a huge source of earnings and dividends. It could also create the danger of over-reliance on Kumba’s exceptional performance.

In terms of the P/E ratio, Kumba’s share price performance relative to the JSE General Mining Index from 2007 to 2009 indicates a huge improvement from the time of listing to date, and Kumba certainly continues to attract value from the share price point of view, as depicted in Figure 3.3.4e.

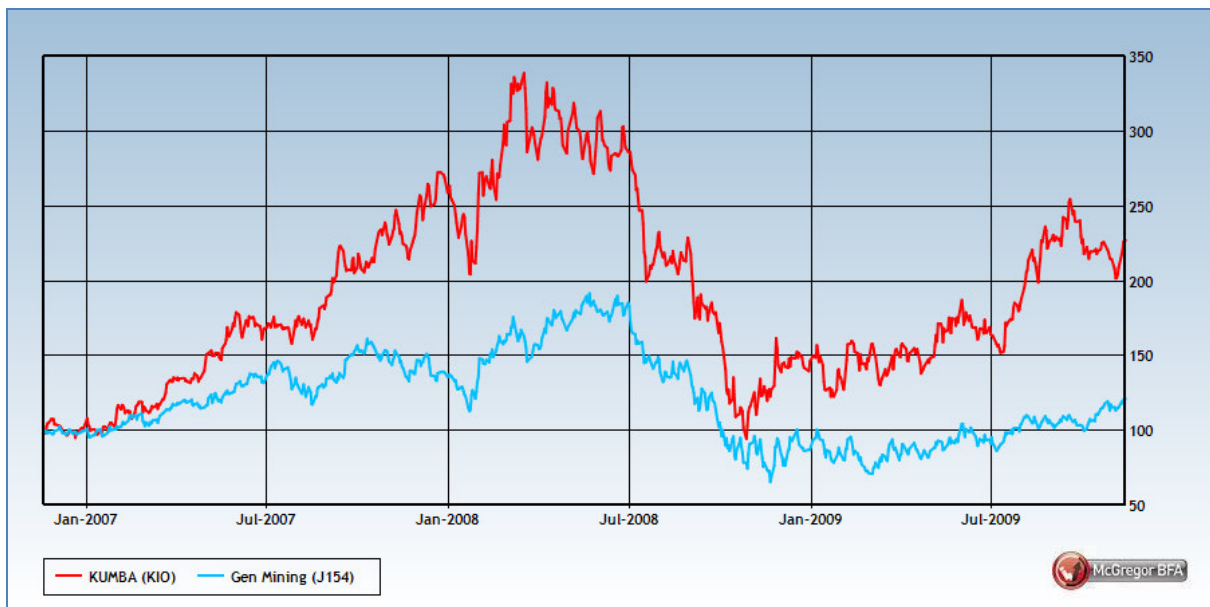


Figure 3.3.4e: Kumba Iron Ore Share Price Performance (Source: McGregor BFA)

Deal value assessment summary

Most of the deal objectives have been met, with the exception of the extent of indebtedness as reflected in the D/E ratio and the deal intent. However, there is a reasonable justification for such debt levels, as long as they can be serviced effectively.

The initial two years have met the expectation of BEE compliance, seen an increase in production and growth, and brought complementary skills into the merged company. Good business deals have been secured from Eskom and Sasol (this was later terminated) which were assisted by the empowerment credentials. Good earnings and dividends have also been achieved with excellent returns on equity.

Challenges remain on the debt level, the cash operating cost at Sishen and the future prices of coal and iron ore, especially in the next two to three years. The foundation has, however, been laid for future value creation and the merger has definitely added value to shareholders.

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CHAPTER 4 ANALYSIS AND EVALUATION OF RESULTS

In Chapter 3, the various indicators that can be used in assessing value creation in mergers and acquisitions were discussed in detail. A framework or guideline comprising a comprehensive set of indicators that will be applicable to the South African mining industry was developed. This framework considered both the financial and non-financial value-adding indicators that apply to mining deals in South Africa. It also considered the objectives of the merger, and whether or not they were met.

The framework was applied to some key deals that have occurred in the South African mining industry, namely:

- The Harmony and ARMgold merger and the subsequent joint acquisition of stakes in Avmin, which led to the creation of a larger Harmony focusing on gold, and African Rainbow Minerals, a diversified empowered mining company
- The AngloGold and Ashanti GoldFields merger to form AngloGold Ashanti
- The unbundling of the assets of Kumba Resources to form Kumba Iron Ore and the subsequent merger of its coal, base metal and mineral sands assets with Eyesizwe Coal to form Exxaro Resources

The outcome of the **Harmony and ARMgold merger** value assessment indicates some amount of value destruction for shareholders of Harmony, but value was created for shareholders of ARM, despite their large stake in Harmony.

Table 4.1 is a summary of the deal value assessment for Harmony shareholders. In terms of deal objectives, the aspect of compliance with the Mining Charter was well achieved, with further BEE promotion through the disposal of its 20% stake in ARM. However, in terms of production growth, the implementation of CONOPs and the application of the Harmony business model to extract value, these objectives were not achieved. The merger gave Harmony access to a huge resource base, but not much of the resources were converted to reserves. Most of the deal objectives were therefore not achieved.

In the case of non-financial parameters, mining licences were secured for all the assets and quality growth assets were acquired which are currently feeding the

growth project pipeline. Production declined and the unit cost was indicative of industry trends, with CONOPs being halted in 2008. The non-financial aspects had mixed results and the assessment therefore indicated a neutral outcome where value was neither created nor destroyed. It must be emphasised, though, that these indicators have different impacts on the business, and hence the outcomes of the assessments could have been different if some weightings had been assigned on the basis of the impact of value creation and sustainability. This study did not, however, consider that and this should be an area for future inclusion to enhance the effectiveness of the model for deal value assessments. The financial aspects were also assessed on the same basis.

Table 4.1: Deal Value Assessment for Harmony

VALUE ASSESSMENT INDICATORS	OUTCOME	COMMENTS
DEAL OBJECTIVES		
Compliance to Mining Charter & Promotion of BEE	☑	Achieved these objectives very well
Largest Gold Resource	➡	Not much resource was converted to reserves
Sustainable Annual Gold Production of 4 Million Ounces	✘	Gold production declined to 1.5 million ounces in 2008
Implement CONOPs to Reduce Cost & Enhance Production	✘	CONOPs did not achieve expected results and was halted
Implement Harmony Way to Improve Bottom Line	✘	No growth in revenue, and no improvement in cash cost
Deal Objectives Assessment	✘	Value destroyed on the basis of deal objectives
NON FINANCIAL		
Acquisition of Skills	➡	To some extent at executive management level
Acquisition of Better Operating Systems & Processes	✘	CONOPs did not achieve the expected results and was terminated
Acquisition of Quality Resources	☑	Did acquire quality resources as shown in current growth projects
Compliance to Mining Charter & Mining Licence Status	☑	Complied well beyond requirements and mining licence secured
Growth in Production from Existing Assets & Projects	✘	Gold production declined to 1.5 million ounces in 2008
Operating Efficiency (Unit Operating Cost)	➡	Did not show improvement, but trend was indicative of industry
Non Financial Assessment	➡	Value was neither created nor destroyed on the basis of non financials
FINANCIAL		
Return on Equity (ROE) - %	➡	declined (2004 to 2005), improved (2006 to 2008), industry trend
Earnings Per Share (EPS) - cps	➡	declined (2004 to 2005), improved (2006 to 2008), industry trend
Dividend Per Share (DPS) - cps	✘	declined (2004 to 2005) and no dividend was paid thereafter
Price Earnings Ratio (P/E)	☑	averaged industry peers, and outperformed peers in 2007 and 2008
Debt Equity Ratio (D/E)	➡	declined (2004 to 2005), improved (2006 to 2008), industry trend
Financial Assessment	➡	Value was neither created nor destroyed on the basis of financials
OVERALL DEAL ASSESSMENT	➡	Value was destroyed to some extent, but still shows potential
LEGENDS		
	☑	Means value assessment indicator was achieved
	✘	Means value assessment indicator was not achieved
	➡	Means indicator not fully achieved but potential exists

The deal did, however, create value for ARM shareholders as shown in Table 4.2, from the perspectives of deal objectives, non-financial and financial indicators.

Table 4.2: Deal Value Assessment for ARM

VALUE ASSESSMENT INDICATORS	OUTCOME	COMMENTS
DEAL OBJECTIVES		
Create a diversified black empowered mining company	☑	Achieved these objectives very well
Create value for shareholders using past business model	➡	Cost focus aspect of business model not very evident
Deal Objectives Assessment	☑	Value created on basis of deal objectives
NON FINANCIAL		
Acquisition of Skills	☑	Skills and expertise acquired from joint venture partners
Acquisition of Better Operating Processes & Systems	☑	Joint venture were with world class companies
Acquisition of Quality Resources	☑	Did acquire quality resources as shown in current growth projects
Compliance to Mining Charter & Mining Licence Status	☑	Complied well beyond requirements and mining licence secured
Growth in Production from Existing Assets & Projects	☑	Major growth projects in iron ore, manganese, coal etc
Operating Efficiency (Unit Operating Cost)	➡	With the exception of manganese, rest are industry trend
Non Financial Assessment	☑	Value was created on basis of non financial assessment
FINANCIAL		
Return on Equity (ROE) - %	☑	Positive trend over past 3 years
Earnings Per Share (EPS) - cps	☑	Positive trend over past 3 years
Dividend Per Share (DPS) - cps	☑	Positive trend over past 3 years
Price Earnings Ratio (P/E)	➡	Industry trend compared with Exxaro
Debt Equity Ratio (D/E)	➡	Fairly constant, with healthy cash position
Financial Assessment	☑	Value was created on the basis of financial assessment
OVERALL DEAL ASSESSMENT	☑	Value was created for shareholders, and promising future
LEGENDS		
	☑	Means value assessment indicator was achieved
	✘	Means value assessment indicator was not achieved
	➡	Means indicator not fully achieved but potential exists

Overall, the merger of Harmony and ARMgold and the subsequent joint acquisition of a stake in Avmin have made some positive contributions to the South African mining industry, especially in the area of transformation as shown in the post-merger and acquisition performances of Harmony and African Rainbow Minerals.

The **AngloGold and Ashanti GoldFields merger**, which led to the creation of AngloGold Ashanti, failed to deliver value to shareholders. Most of the deal objectives were not met and most of the non-financial indicators showed a

declining trend. The financial indicators underperformed industry trends in most cases. The main contributors to value destruction were the combined hedge book and escalating costs at Obuasi and Geita but, at group level, production also declined substantially from South Africa. The value assessment summary is shown in Table 4.3.

Table 4.3: Value Assessment for AngloGold Ashanti

VALUE ASSESSMENT INDICATORS	OUTCOME	COMMENTS
DEAL OBJECTIVES		
Growth in Production	✘	Total gold production has declined as well as from Ashanti assets
Synergy Benefits from Consolidation of Geita	✘	Synergy benefits may be achieved but Geita's has worst cost trend
Diversification (Open-pit, underground & geographically)	➡	Diversification did not create any significant opportunity
Long Life Assets (Obuasi & Geita)	➡	Pay limit and cost profile likely to affect these assets adversely
Hedging (Combined Management)	✘	Hedging has severely impacted on company performance
Deal Objectives Assessment	✘	Value destroyed on the basis of deal objectives
NON FINANCIAL		
Acquisition of Skills	✘	Resignation of Sir Sam Jonah meant no Ashanti skill transferred
Acquisition of Better Operating Systems & Processes	➡	AngloGold did not benefit much from Ashanti in that regard
Acquisition of Quality Resources	➡	Pay limit and cost pressures will affect Obuasi & Geita
Compliance to Mining Charter & Mining Licence Status		Not applicable to this deal
Growth in Production from Existing Assets & Projects	✘	Ashanti's contribution declined from 1.5Moz to 1.02 Moz
Operating Efficiency (Unit Operating Cost)	✘	Cost trend was excessively high at Obuasi and Geita
Non Financial Assessment	✘	Value was destroyed on the basis of non financial assessment
FINANCIAL		
Return on Equity (ROE) - %	✘	Declining trend compared to industry especially from 2006 to 2008
Earnings Per Share (EPS) - cps	✘	Declining trend compared to industry especially from 2006 to 2008
Dividend Per Share (DPS) - cps	✘	Declining trend but similar to industry
Price Earnings Ratio (P/E)	➡	Declining trend compared to industry especially from 2006 to 2008
Debt Equity Ratio (D/E)	✘	Declining trend compared to industry especially from 2006 to 2008
Financial Assessment	✘	Value was destroyed on the basis of financial assessment
OVERALL DEAL ASSESSMENT	✘	Value was destroyed for shareholders with difficult future
LEGENDS		
	☑	Means value assessment indicator was achieved
	✘	Means value assessment indicator was not achieved
	➡	Means indicator not fully achieved but potential exists

The value assessment for *Exxaro and Kumba Iron Ore* is provisional, because post-merger performance exists for two years only, and three to five years would

be ideal for the purpose of the study. Nonetheless, the first two years show some value creation based on deal objectives, non-financial and financial indicators. There was only one benchmark that was used for the financial assessment of African Rainbow Minerals. Overall, the initial two-year post-merger performance is very encouraging and the foundation has been laid for value creation in the next five years, especially from growth projects. The value assessment summary is shown in Table 4.4.

Table 4.4: Value Assessment for Exxaro and Kumba Iron Ore

VALUE ASSESSMENT INDICATORS	OUTCOME	COMMENTS
DEAL OBJECTIVES		
Exceed the Requirements of BEE Ownership	☑	Did achieve 55% BEE ownership in Exxaro
Creation of Two Separate and Focussed Business Entities	☑	Exxaro and Kumba Iron Ore two successful business entities
Growth (Brownfield and Greenfield Projects)	☑	Growth in manganese, iron ore and coal portfolios
Ability to Fund Further Growth (Manage Debt Levels)	➡	That seem to be a challenge looking at debt levels (e.g. Exxaro)
Newco to Attract Further Investment Opportunities	☑	Major coal investment opportunities with Eskom and Sasol
Deal Objectives Assessment	☑	Value created on the basis of deal objective assessment
NON FINANCIAL		
Acquisition of Skills	☑	Skills from both companies were retained at board level
Acquisition of Better Operating Systems & Processes	☑	Grootkelug is a model for exploitation of Waterburg resources
Acquisition of Quality Resources	☑	The Waterburg North & South Project added 3Bt of coal resource
Compliance to Mining Charter & Mining Licence Status	☑	Complies with requirements and mining licence in progress
Growth in Production from Existing Assets & Projects	☑	Production has increased in manganese, iron ore and coal
Operating Efficiency (Unit Operating Cost)	✘	Cost performance and plant efficiency at Sishen has declined
Non Financial Assessment	☑	Value created on the basis of non financial assessment
FINANCIAL		
Return on Equity (ROE) - %	☑	Exceptional numbers from Exxaro and KIO (47.22% and 105%)
Earnings Per Share (EPS) - cps	☑	Increased trend for Exxaro, compares to ARM, KIO very high
Dividend Per Share (DPS) - cps	☑	Increased trend for Exxaro, compares to ARM, KIO very high
Price Earnings Ratio (P/E)	➡	Similar to industry performance compared to ARM
Debt Equity Ratio (D/E)	✘	Worse compared to ARM, both Exxaro and KIO have doubled
Financial Assessment	☑	Value was created based on financial assessment
OVERALL DEAL ASSESSMENT	☑	Value was created for shareholders with future potential
LEGENDS		
	☑	Means value assessment indicator was achieved
	✘	Means value assessment indicator was not achieved
	➡	Means indicator not fully achieved but potential exists

The outcome of these key deals that occurred in the South African mining industry can be summarised as follows:

- (a) Most of the deals did create some value for shareholders.
- (b) The period between 2006 and 2008 was very challenging for the industry as a whole, with high cost pressures which resulted in operating margin squeeze.
- (c) The deals that were made for BEE purposes added significant value from the point of view of empowerment and performance, as shown in the cases of ARM and Exxaro.
- (d) The only non-BEE deal, which was also cross-border, was not successful.
- (e) The deals involving gold portfolios seem to have underperformed due to the performance of the gold price relative to that of other commodities between 2004 and 2008.
- (f) The deals involving diversified commodities such as platinum, iron ore, manganese and coal experienced some exceptional increases in earnings.
- (g) Gold portfolios are expected to experience a bullish environment in the next five years, but this will have a negative impact on the hedged assets.
- (h) The future of commodity prices for iron ore, manganese, platinum and coal appears to be uncertain, bringing some element of risk in the next five years.
- (i) The use of weighting on the various indicators, based on the uniqueness of each deal and the operating environment, would have enhanced the outcome of the assessments, and will require more in-depth analysis and engagement with the various companies.

The assessment framework that was developed and used in the assessment of these mergers and acquisitions is comprehensive compared with the traditional ones which tend to focus mainly on financial parameters. This tool considered deal

objectives, non-financial parameters and appropriate industry benchmarks, which is an enhancement of the models currently in use. It was also developed with the input of industry leaders with significant experience in mergers and acquisitions in the South African mining industry, making the model suitable and relevant to the South African mining industry.



CHAPTER 5 CONCLUSIONS

This dissertation discussed mergers and acquisitions and some of the key motives behind them, as well as the industry trends in mergers and acquisitions, especially in the global mining industry and, more specifically, in the South African mining industry. Considering the important role that mining plays in the socio-economic development of South Africa, a comprehensive and holistic framework for value assessment has been developed and used to assess some of the key mergers and acquisitions that have occurred in the South African mining industry. The purpose is to assist in post-merger reviews of value creation, to offer opportunities for improvement in value creation and also to serve as a useful guide in future mergers and acquisitions.

The following conclusions can be drawn from the study:

- (a) Mergers and acquisitions are one of the ways by which firms attempt to create value. The merger and acquisition process involves target selection following an extensive screening exercise, deal negotiation and conclusion (subject to all the necessary approval frameworks), integration of the various assets involved and post-merger evaluation. The motives that drive these deals are quite numerous, but in the South African mining industry compliance with legislation, operational and financial synergy, strategic realignment to achieve economies of scale, and diversification in terms of risk are some of the common ones.
- (b) Mining contributes significantly to the socio-economic development of South Africa. More specifically, in 2007 mining's contribution to the Gross Domestic Product was 7.7% or R135.6 billion, to exports it was R536 billion and to Total Fixed Capital Formation it was 8.9%. The mining industry also employed about half a million people in 2007, representing about 2.9% of total employment in South Africa, with mining companies also playing an active role in the socio-economic development of the areas and communities in which they operate. Mining also promotes transformation by creating opportunities for the integration of Historically Disadvantaged South Africans in terms of ownership to assist in the realisation of a non-racial South Africa.

- (c) Mergers and acquisitions in the global mining industry increased substantially between 2005 and 2008, with the total number of deals increasing from 762 in 2005 to 1 668 in 2008, and the total annual deal value increasing from US\$69.8 billion in 2005 to US\$153.4 billion in 2008. North America, Europe and South America accounted for most of the deals, and the main commodities involved were base metals, ferrous metals and precious metals. In the South African mining industry, the total number of deals per annum increased from 18 in 2003 to 30 in 2007 and 25 in 2008. Annual deal values were exceptionally high in 2003, 2006 and 2007, with annual total deal values ranging from US\$5 billion to US\$5.7 billion. Platinum, gold and coal accounted for 27%, 22% and 22% respectively in terms of the total number of deals from 2003 to 2008. Some of the key mergers and acquisitions that occurred in this period involved Harmony and ARMgold and their subsequent joint stake in Avmin, AngloGold and Ashanti GoldFields, and the unbundling of Kumba Resources to form Kumba Iron Ore and the merger of its coal, base metal and mineral sands assets with Eyesizwe Coal to form Exxaro.
- (d) The various key indicators that were used to assess value creation in mergers and acquisitions mostly involved the use of financial metrics. These metrics were based on the use of profitability ratios such as profit margin, earnings per share (EPS), price/earnings (P/E) ratio, etc., debt ratios such as debt/earnings (D/E) ratio, and efficient capital utilisation ratios such as market value add (MVA), return on invested capital (ROIC), economic profit, etc. Initial value assessment based on stock market reaction to deal announcement was also done using deal value add (DVA) and proportion overpaid (POP).
- (e) A framework or guideline for assessment of mergers and acquisitions that is relevant and suitable to the South African mining industry was developed based on a literature review, personal input and contributions by industry leaders who have in-depth experience in mergers and acquisitions. The guideline involves the use of deal objectives (whether they were achieved or not), non-financial parameters such as access to skills, access to better operating processes and systems, access to quality

orebodies, compliance with legislation and operating efficiency in terms of unit cost. The financial parameters used were mostly those that have an ultimate impact on shareholders and these included ROE, EPS, dividends per share (DPS), P/E ratio and D/E ratio. The overall assessment was based on a combination of these parameters.

- (f) This framework was used to assess some key deals that have occurred in the South African mining industry, namely the Harmony/ARMgold merger and the subsequent acquisition of stakes in Avmin to form the new Harmony and African Rainbow Minerals (ARM); the AngloGold/Ashanti GoldFields merger to form AngloGold Ashanti; and the unbundling of the assets of Kumba Resources to form Kumba Iron Ore and the subsequent merger of its coal, base metal and mineral sands assets with Eyesizwe Coal to form Exxaro Resources. In the case of Harmony, the merger did not affect shareholder value much, but value was destroyed for AngloGold Ashanti shareholders. On the other hand, value was created for shareholders of ARM, Exxaro and Kumba Iron Ore. The post-deal performances were, however, affected by industry factors such as a higher inflationary environment, rationing of electricity in South Africa, a shortage of skills and commodity prices.
- (g) The deals that were made for black economic empowerment (BEE) purposes added significant value from the empowerment and performance point of view as shown in the cases of ARM and Exxaro. The only non-BEE deal, which was also cross-border, was not successful. The deals involving gold portfolios seem to have underperformed due to the performance of the gold price relative to that of other commodities between 2004 and 2008. The deals involving diversified commodities such as platinum, iron ore, manganese and coal experienced some exceptional increases in earnings. Gold portfolios are expected to experience a bullish environment in the next five years, but this will have a negative impact on the hedged assets. The future of commodity prices for iron ore, manganese, platinum and coal appears to be uncertain, bringing some element of risk in the next five years. The use of weighting on the various indicators, based on the uniqueness of each deal and the operating

environment, would enhance the outcome of the assessments, and will require more in-depth analysis and engagement with the various companies. New deals can use this model as a guide in decision making

In conclusion, mergers and acquisitions can offer significant opportunity for value creation if the deal objectives are clear and appropriate, with a comprehensive and holistic approach used in defining what value entails, the development of an assessment framework to measure post-merger success for ongoing review and the development of corrective measures, as well as the use of key learnings in future deals. Failure to do this can have severe and negative consequences for shareholder value.



CHAPTER 6 RECOMMENDATIONS

The study has contributed significantly to the value assessment of mergers and acquisitions in the South African mining industry. The following are recommendations that can enhance the contribution made by this study:

- (a) The use of this model in evaluating other deals that have occurred in the South African mining industry as more data becomes available in the next three years will enhance the accuracy of deal assessment in the South African mining industry and provide opportunities for improving the model.
- (b) In-depth analysis of a particular deal will always provide very useful insights and address the uniqueness of each deal, and industry leaders are encouraged to provide the necessary guidance and assistance to make information available and take ownership of such assessments.
- (c) There should not be significant differences in the way value is measured in BEE and non-BEE deals, because BEE, or the lack thereof, is not necessarily the critical factor in creating sustainable shareholder value. The use of a comprehensive and appropriate tool that defines value in each situation, and its correct application, is the key value differentiator.
- (d) As mergers and acquisitions have impacted, and will continue to impact, significantly on the South African mining industry, the lack of an effective tool to assess value could have severe consequences for the viability and sustainability of the industry as a whole.
- (e) This model also offers an opportunity for constructive debate, based on facts rather than emotions, on the impact the Mining Charter has had on the performance of the mining industry in the light of an imminent review of the Charter in the near future.



CHAPTER 7 SUGGESTIONS FOR FURTHER WORK

The following are suggestions for further work:

- (a) An assessment model should be developed that will assist in determining which parameters to use based on the initial deal reaction from the stock market, deal objectives and non-financial and financial indicators to suit a particular situation, and also based on the prevailing industry issues that have the potential to impact significantly on shareholder value.
- (b) The model should be based on scoring criteria for the degree of value created, supplemented by weightings of the indicators depending on the key performance indicators applicable at that time and the extent to which the indicators impact on value creation for that particular asset and the industry at large.
- (c) A guideline or framework should be developed that can be used to improve the degree of success in mergers and acquisitions through the setting of appropriate merger objectives, target selection, deal valuation, integration, post-deal assessments and possible interventions that will assist in sustainable value creation.



APPENDICES

APPENDIX A: MERGER AND ACQUISITION DISCUSSION DOCUMENT

Dear Mr/Mrs

Mergers and acquisitions are one of the ways by which firms attempt to create value. The mining industry has not been an exception. In fact in 2008, metals became the new green on Wall Street, as mining displaced financial services to become the biggest source of mergers and acquisitions (Bloomberg Report, June 12, 2008). The enactment of the Minerals and Petroleum Resources Development Act of 2002 (MPRDA) and the subsequent introduction of the Mining Charter has also contributed to significant merger and acquisition activities in South Africa.

Most studies conducted on mergers and acquisitions have, however, revealed that about 60% of all mergers and acquisitions fail to create value for shareholders. When one closely examines these studies, it is evident that in most instances, these conclusions are based on limited and diverse information on what value creation entails, as well as on how and when these parameters should be measured in order to determine whether value was created or not.

It is against this background that I have, as part of my Master's dissertation at the University of Pretoria, undertaken a study on mergers and acquisitions, with the objective of identifying the various parameters that can be used to assess value creation in mergers and acquisitions, formulating a set of criteria that is suitable to the South African mining industry, and then using these criteria to assess deals that have occurred in the South African mining industry between 2003 and 2008. I have confined my research to this period due to the limitation in obtaining reliable and accurate data for mergers and acquisitions prior to that.

Extensive review of the work of several authors and personal contributions on the subject of value creation in mergers and acquisitions can be summarised as follows:

- Shareholders of acquiring companies tend to lose due to the excessive premium often paid, and the subsequent decline in their share price due to market reaction when the deal is announced.
- Target shareholders often profit by selling around announcement dates and/or from premium received.
- Method of payment may affect long-term returns (for example, cash deals are often cheaper than stock deals).
- The Deal Value Add (DVA), which looks at the combined market capital of both firms two days prior to deal announcement and two days after deal announcement, gives a fair indication as to whether the market believes the deal will create value or not. Value is destroyed where the DVA of combined firms is less after the announcement of the deal. This is a short-term measure.

- The proportion overpaid (POP) measures the percentage of deals in which the share price reaction was negative for the acquirer. This is also a short-term measure.
- Value is conserved where the acquirer gets what it expected from the deal, value is created where the acquirer gets more than was expected, and value is destroyed in the case where less was obtained compared with what was expected. The issue here, though, is what if the expectation of the acquirer is far less or far more than what the market expects relative to its peers. What then becomes a fair measure: the market, the acquirer or both?
- Value creation can also be assessed by measuring certain financial and non-financial indicators and comparing them before and after the deal, or against an industry benchmark or against the value of firms that did not participate in any merger and acquisition activity. This should be a measure for determining medium and long-term value creation.
- The financial parameters will typically include earnings per share, total shareholder returns, debt/equity ratio, return on invested capital (in which case the investment will be the acquisition), etc.
- Non-financial metrics will include measures that determine the firm's ability to create and sustain value over the long term and will include parameters such as access to quality resources, growth in output (production), improved operating systems, access to quality skills, access to markets, etc.
- Where the deal is made primarily to comply with the requirements of the Mining Charter, one can consider issues such as deal outcome in terms of the type of empowerment partner and what value they bring to the partnership, BEE rating achieved after deal, government's acceptance and recognition of the deal, granting and maintaining of mining licences, and the securing of government tenders like the examples of Anglo Inyosi and Exxaro where multi-billion rand tenders were secured with Eskom on the strength of, amongst others, their BEE credentials.
- The period of measuring should be 3-5 years for short term and 5-10 years for long term.

Determining whether a deal created value or not will then be based on a combination of some of the above parameters that are applicable to a particular situation. Their individual weightings may vary in each situation. These parameters and the expected outcomes should, however, be pre-determined before the deal and then measured against the deal outcome, or an industry benchmark or any other comparative measure. Nonetheless, there should also be some key basic parameters that the market should expect in each deal to enable fair comparison, but also to ensure adequate due diligence from the corporate governance point of view. Flexibility will, however, be provided to add other appropriate parameters to cater for the uniqueness of each deal.

In conclusion, the subject matter is about mergers and acquisitions creating value for shareholders. Hence even though all the financial and non-financial parameters may look sound and impressive, and may be sustainable in the medium to long term, ultimately shareholders want primarily to invest in an organisation that is a responsible corporate citizen and that can give them a return on their investment in the form of improved earnings through dividends and increases in share price, since these are the means through which value eventually flows into the hands of shareholders.

With this background in mind, and your experience with mergers and acquisitions in the past, I would appreciate it if we could discuss the attached questionnaire in a short one-to-one interview. It would probably require 45 minutes to 1 hour of your time. Your input and guidance will undoubtedly contribute immensely to the outcome of this dissertation which could be of help to the mining industry at large.

Thank you and regards

WILLIAM KWABENA OSAE

APPENDIX B: MERGER AND ACQUISITION QUESTIONNAIRE

MERGERS AND ACQUISITIONS QUESTIONNAIRE/DISCUSSION

1. How many mergers and acquisitions have you been involved in over the past years?
2. In your personal experience, do merger and acquisition deals in general create value for shareholders? In answering this question, could you indicate the following:
 - a. Were there pre-determined outcomes, expectations or parameters, financial and non-financial, prior to the deals?
 - b. Was there a post-deal assessment based on deal outcome compared with what was expected?
 - c. Were there any specific parameters or indicators that were used?
3. Based on the discussion document attached, and considering non-BEE deals:
 - a. What would you consider to be some of the parameters that are very relevant to the South African mining industry?
 - b. What weighting would you apply to the various parameters based on your experience and expectation of the future?
4. What would be your view on the various mergers and acquisitions that have taken place in order to comply with the requirements of the Mining Charter in terms of how value should be measured?
5. What is your opinion or views on the discussion document attached? Does it provide a comprehensive overview on how value should be measured in mergers and acquisitions, with particular reference to the South African mining industry?
6. Do you believe that this study is of importance to the mining industry, and why?
7. Any other comments on and contribution to the subject matter?

APPENDIX C: REPRESENTATIVE DEALS

Year	Value (US\$ m)	Deal Description	Commodity	Remarks
2008	323.735	Annoraq Resources acquires 51% of Lebowa Platinum Mines	Platinum	BEE motivated, public listed companies
2008	252.000	Pamodzi Gold acquires Cooke Section of Harmony Randfontein Ops	Gold	BEE motivated, public listed companies
2007	147.097	Petra Diamonds acquires Cullinan Diamond Mine from De Beers	Diamonds	BEE motivated, public listed companies
2007	432.500	ArcelorMittal SA acquires 50% of Kalagadi Manganese (Pty) Ltd	Manganese	Non-BEE motivated, Kalagadi is a private company
2007	761.620	Northam Platinum acquires Booyseindal project from Anglo Platinum	Platinum	BEE motivated, public listed companies
2007	1056.037	XStrata Plc acquires Eland Platinum Holdings	Platinum	Non-BEE motivated, public listed companies
2007	263.237	Inyosi Consortium acquires 27% of Anglo Inyosi Coal	Coal	BEE motivated, Inyosi is privately owned
2006	1,525.000	GoldFields acquisition of Barrick Gold SA	Gold	Non-BEE motivated, public listed companies
2006	753.777	GoldFields acquisition of 82% of Western Areas Ltd	Gold	Non-BEE motivated, public listed companies
2006	294.245	Harmony Gold acquisition of 29.2% of Western Areas Ltd	Gold	Non-BEE motivated, public listed companies
2005	?	Merger between coal and mineral sands assets of Kumba Resources and Eyesizwe Coal to form Exxaro	Coal and mineral sands	BEE motivated, public listed companies



2005	119.277	Incwala Resources acquires 23% of Mvelaphanda Resources	Platinum and gold	Non-BEE motivated, public listed?
2005	562.938	Ponahalo Holdings Ltd acquires 26% of De Beers Consolidated Mines Ltd	Diamonds	BEE motivated, Ponahalo is a private company
2004	1,244.908	Norilsk Nickel acquires 20% of Gold Fields	Gold	Non-BEE motivated, public listed companies
2003	?	Merger between Harmony, ARMgold and acquisition of Avmin assets to form Harmony in its current state	Gold	BEE motivated, public listed companies
2003	505.091	Anglo Plc acquires 31.6% of Kumba Resources Ltd	Iron ore, coal and mineral sands	Non-BEE motivated, public listed companies
2003	1,538.767	Mergers between Ashanti GoldFields and AngloGold Ltd to create AngloGold Ashanti	Gold	Non-BEE motivated, public listed companies
2003	520.629	Mvelaphanda Resources acquires 10% of GoldFields	Gold	BEE motivated, public listed companies