ABSTRACT

In the 19th and 20th centuries mining underwent an evolution from the exploitation of small mining properties by individual claim holders to consolidation and the formation of multinational mining companies. With the rise of multinational mining companies came the advent of international finance in the mining industry. As companies developed and operated larger mining projects across several geographies, their capital requirements increased. As the number of investors in mining projects increased, through the raising of finance on international capital markets, so did the importance of mineral asset reporting. While governments and other organisations reported on the mineral inventories of countries, international mining companies had to report on only the economic portions of their mineral assets. The early days of international mineral asset reporting resulted in several reporting scandals where investors were misled by unscrupulous companies and individuals who reported false mineral deposit quantities and qualities in an attempt to manipulate investor sentiment for personal profit. As a result of these reporting scandals, the international mineral reporting codes were developed to increase the quality and transparency of mineral asset reporting and to protect investors. In the case of South Africa, the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC) Code, was first published in March 2000 and adopted by the Johannesburg Stock Exchange (JSE) later that year. The SAMREC Code, like the other international mineral reporting codes, aimed to ensure quality and transparent mineral asset reporting. Mineral Resources and Mineral Reserves are collectively a backbone asset for any company in the minerals industry

This research study assessed the reporting of Mineral Reserves in South Africa in the period from the introduction of the SAMREC Code, in 2000, to 2016, with specific focus on reporting by South Africa’s gold and platinum mining companies. Mineral Reserve reporting was identified as a key focus, as Mineral Reserves are the economically mineable portions of Mineral Resources, and therefore give a better indication of the prospects of mining companies in the short to medium term. The literature review conducted as a part of this research study indicated that long-term commodity prices are the most important modifying factors used in Mineral Reserve estimation, hence

there was a specific focus on the long-term commodity prices used in the Mineral Reserve estimates of South Africa’s gold and platinum mining companies. However, the relationships between the Mineral Reserve estimates and the other modifying factors were also assessed.

The research demonstrated a general improvement in the quality of Mineral Reserve reporting by South Africa’s gold and platinum mining companies since the introduction of the SAMREC Code in 2000. However, the quality of Mineral Reserve reporting by the platinum mining companies was found be considerably less detailed to that of the gold mining companies. The long-term gold prices of the gold mining companies were found to be relatively conservative, often falling below prevailing spot prices, while the long-term prices of the platinum mining companies were often found to be more optimistic, with long-term platinum group metals (PGM) prices that were generally above prevailing spot prices. This research study also assessed the relationship between the Mineral Reserve estimates of South African gold and platinum mining companies and their reported modifying factors, with a specific focus on long-term commodity prices. The coefficient of determination (R^2) was used to assess the relationship between Mineral Reserve estimates and their associated modifying factors. The statistical analysis conducted demonstrated that the Mineral Reserves of South African gold and platinum mining companies between 2000 and 2016 were often most sensitive to changes in long-term commodity prices, relative to the other modifying factors.

The long-term commodity price assumptions of mining companies affect the value at which assets are recognised on their balance sheets. Sustained and fundamental differences between the long-term commodity price assumptions of mining companies and prevailing spot commodity prices may result in mining companies having to record impairments against their assets. In the period between 2000 and 2016, South African gold mining companies recognised a total of ZAR46bn (in nominal terms) in non-financial asset impairments, while platinum mining companies impaired their non-financial assets by a total of ZAR54bn. An assessment of the non-financial asset impairments of South Africa’s platinum and gold mining companies revealed that the least number of impairments were recorded when long-term commodity prices were within 5% of spot prices, suggesting that this should be the range within which long-term prices should be determined to limit future impairments.