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# Introduction

Accounting concepts are broad set of broad accounting principles devised for providing basic framework for financial accounting and reporting. Accounting concepts ensure users of financial statement are not deviated by adoption and implementation of accounting policies. Since financial reporting involves significant professional judgments, accountants must consider adoption of consistent accounting principles. Asset valuation and asset recording in books of accounts is an important component of financial statement (Babawale, G., Ajayi, C., 2011). Under International Financial Reporting System, assets cannot be booked at price more than their net realizable value and the net present value of their future income streams in comparison to recoverable amount. In this report, we discuss how Rio Tinto uses different accounting conventions and concepts for asset valuation and recording. In addition, the report highlights measurement problems in the present context of AASB / IASB standards and conceptual framework. The report also lays emphasis on significance of using different ‘processes’ of measurement for estimates achievement.

# Accounting Concepts and relevant examples

Rio Tinto Limited is engaged in finding, mining and processing of mineral resources. The company is listed on Australian Stock Exchange. The company prepares financial statement on a going concern basis in accordance with Companies Act 2006. Rio Tinto’s management acknowledges the fact that preparation of financial statements requires assumptions, assumptions and estimates (Babawale, G., 2013). The judgments are used in application of accounting policies and in critical accounting estimation. The company’s management base their judgments, estimates and assumptions upon relevant facts, information and previous experience. The management admits that but actual results may differ materially from the amounts included in the financial statements. Review of asset carrying value and estimation of asset lives are key areas of judgment involving estimation uncertainty (Choudhury, M., 2011). The company believes factors such as estimation of asset live, determination of ore reserve and mineral resource estimates and contingencies possessing significant risk to assets and liabilities valuation.

The company prepares financial statements under historical cost convention. Under historical cost convention, price of an asset is recorded in the balance sheet on its normal or original purchase price at the time of acquisition. This accounting convention has no correlation with market value of an asset. Thus, volatility in asset prices does not impact recorded asset value and hence balance sheet figures. In case, the useful life is shorter and there is no reasonable alternative use of asset, Rio Tinto records depreciation on property, plant and equipment over their useful life and or over the remaining life of the mine or smelter or refinery. Since the company is engaged in iron ore mining, estimation of useful live of assets including iron ore body gains significance (DeLisle, J., Grissom, T., 2011). This is because of the fact that these assets are cash generating units and their useful lives are dependent on the life of the ore body to which they relate. The lives of mining properties and assets are based on expected life of the ore body. In turn, the life of mine plan determines and estimates life of the iron ore body. On the other hand, when major assets are cash generating units and not dependent on life of iron ore body, management applies judgment in estimation of remaining service potential of long lived assets. Different factors affecting remaining service potential are taken into consideration for estimation of useful life (Grover, R., 2016). Moreover, annual review and periodic changes are reflected prospectively for material assets and asset categories.

Rio Tinto concurs with accounting experts opinion that asset value are bound to depreciate due to normal wear and tear and use. Thus, the company records depreciation on assets as soon as an asset is available for use. Rio Tinto charges depreciation on major categories of assets including property, plant and equipment on a unit of production and or straight line basis (Hordijk, A., Nelisse, P., Gritter, L., 2011). The different methods of depreciation are used by the company depending upon type of assets and accounting information. They are as follows:

## Units of Production basis

For mining properties, consumption of economic benefits is linked to production. Thus, these assets are depreciated by the company on units of production basis. In application of units of production method, depreciation is calculated based on current and future period’s production. The depreciable asset includes ore reserves, and other mineral resources. The company charges depreciation on other mineral resources in situation where they can be extracted economically. In such cases, depreciation is charged since detailed evaluation and analysis work has yet to be performed. The quantum of mineral resource extraction from an iron ore mine is determined by taking into account future capital costs as required by the Joint Ore Reserves Committee (JORC) code. Future developments costs for mines which are not in reduction are not accounted into depreciation calculation (Lagrost, C., Martin, D., Dubois, C., Quazzotti, S., 2010). This is because the company charges depreciation on assets available for use. However, depreciation calculations include Measured and indicated resources in the Group’s Australian iron ore business.

## Straight line basis

Rio Tinto charges depreciation on assets within operations on a straight line basis and where production is not expected to fluctuate significantly from one year to another or which have a physical life shorter than the related mine (Levin, E., Montagnoli, A., Pryce, G., 2011).

## Impairment charges:

Impairment charges are recorded on smallest identifiable assets and generating cash inflows which are dependent on cash inflow of other assets. The company identifies separate cash generating units and monitors intermediate products through active market (Misati, R., Nyamongo, E., 2012). In addition, intermediate products are further processed internally and thus cash flows are not independent. On the contrary, property, plant and equipment with finite lives are reviewed for impairment in case there is an indication of non-recovery of amount. The company conducts an internal annual review of assets for recognition of impairment losses (Parker, D., 2011). External factors are also monitored and taken into consideration for recording of impairment charges.

## Determination of ore reserve and mineral resource estimate

Ore reserve determination and estimation of mineral resource are based on information compiled by Competent Persons as defined in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves of December 2012 (the “JORC code”, which is produced by the Australasian Joint Ore Reserves Committee). These estimates and determination are used by the company for charging depreciation and amortization (Prokop, J., 2013). In addition, estimates are used for recording impairment charges and forecasting time payment of close down and restoration costs. Thus, estimates form an integral part of accounting convention adopted and practiced by the company in preparation of financial statements.

# Measurement problem in the context of present AASB / IASB standards

The company records assets in books of accounts at cost of acquisition. The recorded purchase price of assets becomes historical in nature. However, assets are used by the company for production purposes. The use of assets results in extraction of iron ore from mines and sites. Thus, future productivity of assets decline due to constant use. However, the uses of mines for production are not on an equitable basis. Therefore, estimates play an important role in measurement of useful life of asset and calculation of depreciation on assets. In the present context of AASB/ IASB standards, asset valuation is an important issue involved in accounting treatment of assets. Since most of the assets require use of estimates, management has to critically examine both internal and external factors for asset valuation (Salamudin, N., Bakar, R., Ibrahim, M., Hassan, F., 2010). In addition, useful life of an asset is an important assessment which needs to be done with extreme care and caution. The useful life of an asset gives company’s management a fair idea about the amount of depreciation to be charged on the asset. Rio Tinto Limited, in turn charges depreciation on different assets accordingly. However, the main problem is measurement problem associated with asset pricing (Schanaidt, T., Sebastian, S., 2012). In the present context of AASB/IASB standards, cash generating units discount the estimated net income stream with an estimated appropriate discount factor and compare with the asset prices of cash generating units. Thus, in case of cash generating units, both future net income stream and discount factor are estimates. Therefore, asset selling prices are affected by these estimates of future cash inflow and discount factor.

The estimates of future cash inflow and discount factor are primary reasons behind measurement problems. Rio Tinto Limited is engaged in mining and processing of iron ore. The company operates in a cyclical business and hence production may differ depending upon market conditions. In case, commodity prices have declined sharply, Rio Tinto would be charging higher depreciation on lower net reliable value of assets. In other words, future cash inflow of cash generating units, i.e. mines and sites would be affected by the price of commodity prevailing in the international commodity market (Schauten, M., Stegink, R., Graadd, G., 2010). This is inconsistent with both methods of charging depreciation of units of production basis and straight line basis used by the company. Thus, even after adoption of accounting concepts endorsed by IFRS, the company faces asset measurement problem. Moreover, estimates are subjective to biasness and valuation assigned by each asset valuer differs based on different parameters. Thus, estimates of future cash flow may differ significantly based on expert opinions about future direction of commodity market. This is because each valuer would assign different realizable value to asset affecting cash inflow from cash generating units. In addition, discount factor is another key component adding to measurement concerns. Discount rate may differ on account of market conditions, company’s cost of capital and loans raised for buying specific mines and sites (Strench, B., Schellenger, J., 2013). Higher discount rate results in lower future cash inflows and lower net realizable value and vice versa. Thus, Rio Tinto faces asset measurement problems under conceptual framework.

# Significance of different processes for achievement of estimates

Rio Tinto uses different processes for achievement of estimates. These processes have tremendous significance since they guide the company’s management in achievement of estimates. Estimates are based on market conditions, management’s judgments and type of assets involved. Each of these processes guides company’s management to determine fair value of an asset on a particular date. The fair value arrived through estimates helps the company to compare recorded asset value, current value and market value for charging depreciation and recognition of impairment charges (Tollington, T., Tawy, N., 2010). The company uses principal accounting policies for preparation of financial statements. For example, in case of impairment, recoverable amount is assessed by reference to the higher of asset value in use. In other words, NPV of expected future cash inflows of the relevant cash generating unit in its current condition and fair value less costs of disposal (FVLCD). After measurement of recoverable amount of cash generating unit with reference to FVLCD, the amount is further classified on the basis of value hierarchy. The company derives value from an active market based on fair value hierarchy as level 1. Forecast of future cash flows of a cash generating unit is taken into account as sales prices under existing sales contracts (Vaish, A., Prabhakar, A., Mishra, H., Dayal, N., Singh, S., Goel, U., Coull, N., 2011). Thus the process is susceptible to volatility in prices. Huge changes in prices may result in material difference in actual cash inflow over expected cash inflow.

The discount rates applied to future cash inflows are an estimate of market rate which would be applicable in regards to time value of money and specific risks related to future cash inflow from the asset. The company generally uses average cost of capital for determination of discount rates after adjustments of risk profile of different projects present in different countries. For feasibility studies, internal hurdle rate which are higher than company’s weighted average cost of capital are used as estimates (Watson, R., 2010). Thus, under each different scenario, different processes are used for achievement of estimates. The reason for use of different processes is because different assets and liabilities have their own individual risk, measured in the form of standard deviation (Wang, M., Kong, D., 2011). Rio Tinto understands that assets valuation is a critical activity involving judgments, skills and expertise. Hence, use of different process in the current business environment would enable the company to arrive at fair value of assets closer to market value. Thus, each process has its own significance in estimation of achievement.

# Conclusion

Thus, it can be concluded that accounting concepts play an important role in preparation of financial statements. Moreover, Rio Tinto uses different accounting methods including unit of production, straight line, impartment charges and determination of iron ore estimate. The company faces significant asset measurement problem due to involvement of estimation of future cash inflow and discount rate. In addition, Rio Tinto uses different processes for asset valuation based on different parameters for achievement of estimates.

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