

Mineral Economics and Project Modelling	
Day 1	Day 2
Introduction: <ul style="list-style-type: none"> • Course overview and objectives • What financial issues are intrinsic to mining companies • What drives value in the mining industry 	Inflation <ul style="list-style-type: none"> • Real and nominal cash flows • Inflation impacts on prices and costs • Building inflation impacts into our model
Sources of competitive advantage in mining through the value chain: <ul style="list-style-type: none"> • Exploration • Appraisal • Development • Production • Processing • Logistics • Marketing 	Project financing and cash flows to equity <ul style="list-style-type: none"> • Building loan accounts into the model • Cash flow to equity method of valuation Exercise Complete our model by building in inflation impacts and a loan account
A Review of Financial Theory <ul style="list-style-type: none"> • The cost of capital • Discount rates and hurdle rates • NPV, IRR, VIR, payback 	Sensitivity Analysis <ul style="list-style-type: none"> • Risks and sensitivities • Using 'What if' analysis • Simulation and Monte Carlo analysis
Exercise Building a simple mine valuation model to determine after tax cash flows in order to understand the basic concepts of discounted cash flow analysis	Royalties and Rent Taxes <ul style="list-style-type: none"> • What is economic rent • When/why do mining projects create 'super profits'? • Ad valorem royalties • Minerals resource rent taxes • Impacts on project value and life
Taxation in mining <ul style="list-style-type: none"> • Taxable income • Investment incentives • Treatment of tax losses 	Exercise Understanding the impacts of royalties and rent taxes on project economics
Exercise Modelling depreciation and taxation in excel	Examining Mining Company Financial Statements <ul style="list-style-type: none"> • Capital costs and operating costs • Exploration accounting • To what extent are mineral assets reflected on a balance sheet? • Depreciation and depletion • Provisions for remediation
Building flexibility into the mine valuation model <ul style="list-style-type: none"> • Structuring and economic model • Creating scenarios • Reserve scenarios, price scenarios 	Valuing Listed Mining Company <ul style="list-style-type: none"> • Estimating future cash flows from the accounting statements • Making judgements about revenues and costs • Adjusting for corporate costs and liabilities
Exercise Enhance our model so that we can switch between different assumptions and cases: proved vs probable, high versus low prices and costs	Group exercise We will take a small listed mining company and on the basis of its publicly available information, build a valuation model and estimate the value of equity. Is it a buy or a sell opportunity?!!