American barrick resources corporation : managing gold price risk

CASE: American Barrick Resources Corporation : Managing Gold Price Risk 1. In the absence of a hedging program using financial instruments, how sensitive would Barrick stock be to gold price changes? For every 1% change in gold prices, how might its stock be affected? How could the firm manage its gold price exposure without the use of financial contracts? Particulars for yr 1992($ million)| | Pretax earnings (Exhibit 2)| 223| Reductions in earning of gold sold at spot (1280mn oz x (422-345) (Exhibit 12)| (99)| Proforma Pretax Earnings| 124|

Taxes @ 21% (Exhibit 2) | (26)| After Tax Earnings| 98| Thus in absence of risk management program the American Barrick stock would be more sensitive to gold price changes. This could also be observed from Exhibit 4 where the return on Barrick's stock is continuously increasing as compared to other unstable major stocks in gold mining sector. Elasticity of Earnings & Profit for 1% change in Gold Price 1% change in gold price ($345)| $3. 45| Number of ounces| $1, 280m| Additional pre-tax profits| $4. 4m| Additional after-tax profits| $4. 4 x (1-. 1) = $3. 5mn| Additional profits as % of earnings| 3. 5/98 = 3. 5% (approx)| Cash Flow = Earnings + Noncash charges| 98mn + 69mn = $167mn| Additional profits as % of cash flow| 3. 5/167 = 2. 1%| Thus with 1% change in gold price the earnings of Barrick would change by 3. 5%. The firm can manage its gold price exposure in following three ways: 1. Diversifying its business 2. Hedging against the gold price risk 3. Insuring against the gold price risk Hedging involves entering into financial contracts and so does insuring against the gold price risk.

Thus without being involved in any financial contracts Barrick can reduce its gold price exposure only by diversifying its business. 2. What is the stated

intent of ABX's hedging program? What should be the goal of a gold mine's price risk management program? Stated intent American Barrick Resources Corporation is one the most financially successful gold-mining concerns in the world. The main stated intent of ABX's hedging program was to profit handsomely even during a downtime, when gold prices are falling.

The hedging position had allowed ABX to sell its commodity output at prices well above market rates. The main motive of the hedging program was to profit and gain an advantage over its competitors by hedging, at a time when the prices of gold were low and also interest rates were falling. Thus, the main intent of the hedging program was to position the organization as a low- cost commodity producer, willing to sacrifice potential profits from gold price peaks in order to level out potential losses in the future. Goal of a gold mine's price risk management program

The primary goal of a gold mine's risk management program is to hedge the risk of falling gold prices and low interest rates, to ensure the minimum sale price of gold even when prices are declining. One of the main goal is to achieve financial stability. The risk management programs motive is to hedge risk in order to plan the future cash flows with certainty. Also, at a time, when an organization has immense production initially itself, the risk management program enables the firm to earn a predictable, rising earnings profile in the future inspite of rising production.

Thus , the intent of the risk management program is to hedge the risk in such a manner, that its production decisions are not affected by the market price of gold. 3. What would convince you that a price risk management

program created value for its shareholders ex ante? The American Barrick Resources Corporation, had since its inception a strategy of efficient risk management system to protect or hedge itself from the fluctuations in the Gold prices. The various risk management system coupled with favourable circumstances and opportunities of price locking, rendered an overall strong balance sheet for American Barrick.

They were able to attract investors who shied away from gold mine investments due to price risk, due to the efficiency in hedging mechanism. In 1992, American Barrick produced and sold over 1. 28 Million Ounces of gold at a price of $422 instead of $345 market rate, as a result of the risk management program. Such benefits would lead to higher revenues, and thus higher profits and in turn render higher value for the shareholders. The organisation guidelines clearly specifed that the risk managemnt system should be such that they are fully protected against price declines for 3yrs and 20-25% for a decade.

Thus such a mechanism helped create value for the shareholders as the profits of a Gold mine are dependent on fluctuation in gold prices and the difference between revenue and costs. Thus locking future prices, provided financial stability, enabling the organisation to avoids dips, and plan cash flows in a confident way, and in combination with the rising production, offered investors and shareholders a predictable , rising earnings profile in the future 1. How would you characterize the evolution of Barrick’s price risk management activities?

Are they consistent with the stated policygoals? As a producer of commodity products, gold mining firms had virtually no marketing or distribution costs. There was always a ready market for their products, at market prices, once extracted from the earth & refined. Therefore a gold mine's profits were a function of the quantity of its production & the difference between the prices at which it sold its output & its costs. To minimize the price risk, hedging is necessary. Being conservative in nature, company has maintained lower leverage.

As per stated policy goals of company, Gold Hedging program gives American Barrick extraordinary financial stability. It protects shareholder's wealth from the dip in gold prices. American Barrick's hedging program evolved over history and used a wide range of tools to manage gold price risk. With gold financing, forward sales, options strategies & spot deferred contracts, company shed some of its price risk while maintaining flexibility to profit from rising gold prices. a. Gold Financing: In early days, Company's gold price management activities were incorporated in financing for its mines.

Company made its growth organically as well as inorganically. Almost every year, company madeacquisition of 1 gold mine company. For financing such acquisition, company used following tools Gold Trust: Paying specific percentage of gold production as return to investors Bullion Loan: Bank gives loan in gold form, company need to pay interest in gold terms only. Collateral is reserves company owns Limitations: Limited scope. b. Forward Sales: Production at Gold mine is highly inelastic in nature. ie Its not easy for

the company to change the production in tune with the highly fluctuating demand, market prices.

To avoid price risk, American Barricks used Forward Sales as tool by which company can lock in prices for future dates. Forward Sales are usually for relatively short delivery periods of under a few years. Normally forward sellers receive a premium (approx. 5%)above the current gold prices ensuring a guaranteed return of 5% for forward sellers. Limitations: Forward sale mitigates downside risk but also its ability to benefit if price rose. c. Options & Warrants: Hedging using Forward sales eliminated downside risk for the American Barricks but also its ability to benefit if price rose.

To resolve this issue, from 1987 company started using Options and warrants. This allows company to hedge from downside risk and retain some benefits of rising prices. Board of American Barricks were ready to use options but in costless manner. Collars strategy: Simultaneously buying Put Option & writing Call Options on gold. Premiums and maturity of both call and put option is maintained same. This strategy ensured a price range for the gold in future giving opportunity to the company to get benefits from rising gold prices as well as downside protection if price dips.

Limitation: Market for such options were liquid only for contracts with maturities under 2 years. This horizon was far shorter than 20 years of expected production currently in reserve. d. Spot Deferred Contracts: This tool gives additional feature to standard forward sale. In forward sale, the delivery date is fixed. In SDC there are multiple delivery dates. Seller chooses at which date he will pay gold. Forward price is decided at each roll

over date depending upon current market price plus prevailing contango premium. (SDC will be explained in detail in Q6.)

So during 10 years, American Barricks moved solely from getting gold financing, lock in future prices to getting strategic benefit due to inherent strengths of American Barricks over competitors using tools like Spot Deferred Contracts. 5. How should a gold mine which wants to moderate its gold price risk compare hedging strategies (using futures, forwards, gold loans, or spot deferred contracts) with insurance strategies (using options)? On what basis should these decisions be made? Once a firm has decided on either a hedging or an insurance strategy, how should it choose from among specific alternatives?

One can characterize risk management strategies as either linear, hedging strategies (which eliminate all exposure to price fluctuations) or nonlinear, insurance strategies (which protect firms against falling gold prices only.) Choices among instruments are determined by their relative costs (including transaction costs), interim liquidity requirements, accounting and tax implications, and the ability to customize the contract terms. For example, gold mining firms tend to use forward sales instead of futures contracts, at least in part to avoid the cash margin calls which futures transactions might entail.

As another example, mining firms' preferences for spot deferred contracts over them functionally equivalent strategy of rolling forward contracts seems to be related to their relatively attractive accounting treatment. Distinguishing linear and nonlinear strategies becomes more difficult with

dynamic trading. Suppose we observe a firm only selling gold forward. By a static measure, we would conclude that it was hedging. However, as is well known, through dynamic replication, a trader can create a put option by adjusting the amount of gold sold forward.

Specifically, as the gold price falls, a dynamic replication strategy would have the firm short-sell more gold. Thus, distinguishing hedging from insurance strategies requires an analysis of the changes in a firm's equivalent short position (or delta-percentage) relative to changes in the price of gold. The sensitivity of cash flows and investment costs relative to changes in the underlying macro-variable are equal. If the sensitivities are equal, linear or hedging strategies will be optimal, otherwise firms would prefer to use non linear or option strategies.

It is not apparent how to measure the degree to which mines face quantity risk. Firms facing borrowing constraints and that facing higher price risk might be more active users of options. Borrowing constraints might be more severe among firms with high operating costs, small market values, or small reserves; bankers might be reluctant to lend to high-cost producers that may be forced to shut-in production and to smaller firms with less collateral. It is reasonable to suspect that price risk might be more pronounced among mines with higher production costs.

Firms with higher cash costs and those with smaller market values and reserves might be more likely to use options or price-contingent nonlinear strategies. 6. What is a “ spot deferred contract? ” Why has ABX chosen to rely on spot deferred contracts relative to other gold derivatives? Spot

deferred Contract (SDC) is used by gold producers to hedge gold price exposure. It is a type of forward contract which has multiple delivery dates with the final one being 5 or 10 years after the initiation of the contract.

The seller of SDC has the right to choose on which of the rollover date he will deliver the gold and can defer the delivery date till the end of the contract. Therefore spot deferred contract gives the right to the seller to choose the delivery date but has to deliver the quantity of gold specified in the contract. American Barrick entered into SDC with 1-year delivery or rollover dates where prices were set only for the first rollover date. On the rollover date, American Barrick could deliver the contract if forward prices were higher than spot prices or could roll the contract for the next period and sell the gold in the spot market.

American Barrick chose to rely more on spot deferred contracts relative to other gold derivatives because of the following reasons: 1) Initially American Barrick entered into contracts for delivery within 3 to 4 years. Later on its bargaining power increased because of its large reserve base and strong financial position which made them negotiate agreements giving them 10 years within which to make delivery. 2) SDC was a way to profit from increase in price of gold yet set a minimum price on its sales of gold.