The south african platinum mining industry economics essay

The problem here is that due to the small sizes of the tunnels, capital cannot be substituted for expensive labour MineWeb, Lawrence Williams, and therefore suppliers are stuck between a rock and a hard place. The badly thought out actions of the labour will result in South African platinum producers reducing supply by cutting shafts over the long-run, which will in turn lead to an increase in prices. As part of my analysis, I will look at short-run supply and demand curves for labour and products.

In order to do my analysis of the supply and demand curves, I first need to determine the market structure of the platinum market. In contrast to what economists commonly believe, I would like to prove that it is in fact competitive because platinum producers produce a homogeneous product, they are price takers, with their actions not being able to significantly affect price, and there are substitutes such as palladium available. Also, companies such as Royal Bafokeng Platinum (Royal Bafokeng Platinum, 2011 annual report), with only one operational mine, are able to compete and have entered the market recently.

I have included a chart below, in which supply, demand, and average yearly price are reflected between 2002 and 2011 (Platinum Matthey and Kitco). I have calculated the correlation between movement in price and between supply (correlation of -0. 22) and then demand (correlation of 0. 73). While I understand that there are insufficient data points, I believe it paints a clear and unexpected picture. It therefore follows that there is a much greater correlation between demand and price, than there is between supply and price. One would expect the opposite if supply affected price. This is mainly because supply cannot be decreased significantly in the short-run due to labour costs in South Africa being seen fixed costs as a result of labour legislation. Platinum producers have therefore with the exception of 2008, where there was a reduction in supply by closing shafts, maintained a level of production close to full capacity.

Figure : Platinum supply vs demand vs average yearly price (source: Platinum Matthey and Kitco)

Another reason that platinum is a competitive market is because demand for platinum is fairly elastic because consumers are able to substitute platinum with palladium, which while also concentrated in a few countries, means that platinum cannot continue above a certain price. I will for the rest of the analysis assume that the platinum market is competitive and would react to changes in market variables as if it were de facto perfectly competitive.

In my analysis, I would like to focus on results of recent actions by labour. I will use the short-run supply and demand curves for the provision of labour and for the product. I believe that this is the best way in which one can intuitively convey the message about the true effects of the unprotected strikes in the platinum market.

The effect of the strikes in South Africa, and the unified nature of them is that the overall minimum wage, even though it was not set by the government, has increased from We to Wu and has resulted in employment moving down from L1 to L2, while the supply of labour moves from L1 to L3 over the short-term, creating an excess amount of supply. It should be noted that in the long-term this will not reverse as wages in South Africa are ‘ sticky’. The strikes have therefore benefited those that have managed to remain employed in the short-term but increases permanent unemployment in a country already grappling with high unemployment of around 25% (FT, 18 October 2012, Rob Minto).

Figure : Labour market equilibrium before unprotected strikes

Figure : Labour market equilibrium after unprotected strikes

What is also interesting about the platinum market is that South Africa provides c. 80% of the world's platinum supply and therefore major players are forced to remain in the country even though the macro and micro economics do not always stack up. So their only choices are to reduce staff, if possible, or to leave the industry.

The industry wide wage increases will result in the amount able to be supplied to decrease from Q1 to Q2 as a result of shaft closures. This will in turn lead to the price to increase from Pe to P*. This will result in the world having to pay a higher price for platinum, which would potentially result in consumers switching to palladium in order to lower their costs. However, this would not happen in the short-run as auto-making processes take time to change.

Figure : Product supply-demand equilibrium post strikes

Figure : Product supply-demand equilibrium prior to strikes

The key learning from the analysis is that workers by striking and asking for wages above the equilibrium will cause greater unemployment and a higher cost of platinum for the world. It could also result in certain companies such as Anglo American pulling out of the economy all together or companies continuing to invest in research and development relating to mechanisation of platinum mining. Both of which would be detrimental to current mineworkers. The workers should never forget that there are two factors that can be used in production and where there is a will, there is a way.

To prevent this type of unprecedented scenario from happening again, the President of the Republic of South Africa has recently announced that all private and public sector executives and officials should freeze their salaries for the next twelve months in solidarity with the workforce. As he has realised that it is not only the wages of the workers that cause productivity to decrease and industrial action, but also the difference between those on the top and those at the bottom of the corporate hierarchy. South Africans and the international community will continue to watch this space.