

ABSTRACT

South Africa has an immense Platinum Group Metals (PGM) resource and with such a mineral rich comparative advantage, as opposed to other nations, it would be expected that this windfall could be manipulated to create substantial economic benefit. Sheer comparative advantage does contribute to the economy but added revenue and job creation could be achieved by further processing the metals into higher saleable products by using beneficiation. As the resource is located, close in proximity to the manufacturing industry, the movement of metals from the PGM refineries to the manufacturing facilities should be an advantage. However, circumstances and nuances, related to PGMs, make this sequence irrelevant due to the low transport costs of refined PGMs to processing facilities outside of South Africa. The global auto catalyst industry was, by far, the largest consumer of PGMs in 2016. This single industry consumed 12 million ounces and this aspect of a dominant downstream application makes PGMs unique.

The Beneficiation Strategy for the Mineral Industry of South Africa from the Department of Mineral Resources (DMR) main value proposition was to translate the comparative advantage of the country's mineral wealth into a related industrial competitive advantage and also to create employment. This mechanism was to be achieved through industrial diversification to produce upgraded, higher value products from raw or semi processed mineral products. Fundamentally, this notion is flawed with the downstream PGM industry as the location of the deposit compared to the processing zone has no bearing on the position of the auto catalyst manufacturer. The stimulus for this industry does not have the same drivers as compared to the extractive industry. The auto catalyst industry is dominated by a handful of multinational catalytic converter companies. These companies base their strategy on locality of competitive advantage, incentive policies are a major consideration as to the position of manufacturing facilities.

The South African catalytic converter manufacturing industry has a global reach and is considered a trade policy success story. South Africa has an incentive policy which attracted these companies, but South Africa is not geographically located near to major automotive manufacturing hubs. In 2016, South Africa accounted for 1% of the global passenger car and commercial vehicle production and remarkably, produced 15% of the world's auto catalysts. The incentive policy which drives the local auto catalyst industry uses local content addition to qualify for 65% export rebate certificates. Refined PGMs form part of the local content addition and South African refined PGMs are used in local auto catalyst manufacturing facilities. The driver for the auto catalyst industry is to qualify for the export

rebate, local PGMs add to this qualification but the reality is that there is no real other advantage to use local PGMs.

The South African auto catalyst sector is a R 20 billion South African industry, however, the primary PGM source, or the extractors, are struggling to maintain financial stability. The downstream beneficiation value chain is loaded in favour of the auto catalyst manufacturer and not advantageous to the extractor. South Africa supplied 56% of the global PGM demand in 2016 but this was overshadowed by the poor financial health of the PGM extraction industry which was subjected to a 47% platinum price plunge from 2010-2017.

To leverage the maximum financial advantage through downstream beneficiation of the South African PGM supply is not possible. This would be a considerable risk to the multi-national auto catalyst manufacturers who would have all of their investment in South Africa. Considering the remarkable progress of the South African auto catalyst industry, opportunities exist to re-evaluate the PGM value chain to benefit all stakeholders.