

A chrome export tax: An important intervention to support industrial development in South Africa

OVERVIEW

The introduction of a chrome export tax, announced by Cabinet on 21 October 2020, will bring immediate benefits to the ferrochrome industry, and also presents an opportunity for South Africa to support the development of the downstream industry. In the context of a post-COVID-19 recovery plan, industrial development is a priority and requires the use of a multiplicity of measures by the state to strengthen its industrial base.

The implementation of the export tax will mean South Africa is able to take advantage of its natural resources by giving South African ferrochrome producers a price advantage over Chinese firms. Further, it will see the benefits of mining being utilised in support of beneficiation and potentially further downstream.

This policy brief discusses the benefits of a chrome export tax, why it makes sense for South Africa as a measure to support the ferrochrome industry, and that this measure alone is not sufficient to grow the stainless steel and downstream industry – an additional set of industrial policy measures are also required.

INTRODUCTION

The benefits provided by an export tax on chrome ore are important and necessary for the sustainability of the ferrochrome industry. To ensure the development and growth of the downstream industry, it is key that the benefit provided by the export tax must see producers commit to value chain development. They should pass on the pricing benefit to downstream domestic producers through a developmental price, which should be a discount to the export parity price.

Over and above the export tax on chrome ore, measures that would unlock the growth of the chrome value chain would include those related to (a) developmental pricing for the downstream industry; (b) more efficient and appropriately priced electricity; (c) industrial finance to support new industrial opportunities downstream; and (d) additional government support measures such as the Black Industrialist Programme, special economic zones (SEZs), and local procurement.

The export tax should be part and parcel of a broader approach to strengthen South Africa's industrial capacity and contribute to structurally shift the economy away from its historical path of mining dependency and into increasing its capacity in value added products. A step on that path is to stabilise and grow the domestic ferrochrome industry. The real

impact in structurally transforming the economy, however, lies in the further development of the stainless steel and downstream sectors.

CONTEXT

South Africa has the largest global reserves of chrome ore. This ore is used to produce ferrochrome, which in turn is a key ingredient in making stainless steel. Stainless steel has a wide range of uses across industries as inputs, and also for consumer goods such as cutlery, kitchen sinks and home appliances as well as into the automobile industry.

The global supply of chrome is highly concentrated, with only a few countries having chrome reserves of any significant scale, with South Africa being dominant.

For several reasons, the mining of chrome ore in South Africa has increased substantially over the past decade, and increasingly by platinum mines, as the two products are often found together. This chrome ore is, however, increasingly being exported in raw form rather than being beneficiated into ferrochrome domestically.

This has not always been the case. Prior to 2012, South Africa was the largest and most cost-effective ferrochrome producer in the world. It built this competitiveness through the availability of chrome ore, world class technology, low electricity

Trade & Industrial Policy Strategies (TIPS) is a research organisation that facilitates policy development and dialogue across three focus areas: trade and industrial policy, inequality and economic inclusion, and sustainable growth

info@tips.org.za
+27 12 433 9340
www.tips.org.za

Policy Brief by
Saul Levin

TIPS acknowledges the contribution by Christopher Wood, who undertook research on this project as a TIPS researcher in 2018.

prices and reliable electricity supply (since electricity accounts for almost a third of ferrochrome production costs). Unfortunately, the country has neither fully developed significant stainless steel capabilities nor has it grown its capacity in any meaningful way in producing downstream products.

South Africa lost its global position as the leading ferrochrome producer through a combination of escalating electricity prices, and China taking a holistic approach to industrialisation by subsidising and nurturing its ferrochrome capacity to develop and grow its stainless steel and downstream capacity. China built its ferrochrome capacity largely using South African chrome ore, and has grown from being a marginal producer into the world's largest producer. For China, almost all production of ferrochrome feeds into domestic production for stainless steel, which in turn is used almost exclusively in local production of white goods and other stainless steel products.

The decline of South Africa's ferrochrome industry has seen a number of smelters closing down, firms entering business rescue or filing for liquidation, as well as consolidation within the industry.

South Africa has never fully developed its stainless steel capabilities or downstream products. South Africa (along with other ferrochrome producers) supplies a range of stainless steel producing countries in Europe, Asia, and the United States. A suite of policy measures is therefore required to reposition South Africa as the global leader in ferrochrome production, initially through the introduction of an export tax on chrome ore but also through broader industrial policy interventions, particularly to grow the downstream stainless steel industry.

The risk is that without an export tax intervention to enable South Africa to rebuild the ferrochrome industry, the country could see a further reduction its production and industrial capacity. Already in early 2020 two firms started the process to reduce capacity and retrench workers.

WHY AN EXPORT TAX

Export taxes are a commonly used instrument to encourage local beneficiation of raw materials – and have a proven track record of success. An export tax on a commodity makes sense either when a country does not wish to export the product to ensure local use or consumption (e.g. wheat during a time of drought), or the country is dominant in a mineral and the tax would not result in a material loss of market share.

In the latter situation, export taxes are effective only in certain limited circumstances. Three conditions in particular are required: substantial market power in the product or commodity; adequate local capacity to ramp up processing to take advantage of the domestically available lower price for the mineral – local producers would increasingly absorb the ore as they would have an advantage over global producers;

and few alternative products that could displace the use of the commodity or result in reduced demand.

For South Africa, chrome ore is one of the few of the country's minerals that meets all three of these conditions.

Depending on the estimates used, South Africa controls between 55% and 85% of global chrome ore reserves, and has the world's most effective chrome ore mining operations. China is extremely dependent on South African ore, which accounts for 72% of Chinese chrome ore imports. TIPS analysis shows that no other country produces chrome ore at a scale needed to displace South African supply, and most have constraints on doing so:

- First, because South African chrome ore mining is low cost and remains relatively competitive even with a moderate export tax.
- Second, there are substantial limits on the capacity of many major chrome ore producers to rapidly increase their production to displace a slightly higher price of South Africa's chrome ore. Turkey, the world's second-largest exporter, has according to an industry publication¹ witnessed declining head grades of chrome ore, and has increasingly turned to the processing of tailings and the mining of lower grade resources for the survival of the industry.
- Third, few other countries have significant reserves that would be able to displace South Africa's chrome ore exports. Large reserves are available in Canada, but are too expensive and politically charged to be a viable option; and while India has substantial chrome ore reserves, the country has its own export tax and rigorous export restrictions.

Even if it could be done, addressing constraints by these countries would be at significant cost and therefore unlikely to be considered on the back of a moderate export tax by South Africa. The evidence available suggests that large-scale displacement to other sources of chrome ore is unlikely.

South Africa has significant underutilised capacity in ferrochrome production that would be immediately ramped-up in response to the changing competitive dynamics sparked by an export tax. This increased capacity would increasingly absorb domestically mined chrome ore in the event of exports being displaced.

TIPS research for the Department of Trade, Industry and Competition has run several scenarios to assess the balance of risks and benefits of a chrome ore export tax, and in almost all the scenarios the assessment is positive for all players in the value chain. The one negative scenario of implementing such a tax finds that there are risks to the chrome ore miners that are exporters of chrome ore versus the

¹ Global Business Reports. 2010. Mining in Turkey: A Country Thirsty for its Own Mineral Reserves. In *Engineering and Mining Journal*, January 2012. Available at: http://www.fenimining.com/upload/dosyalar/m_rapor_1359494665.pdf.

integrated firms that mine and beneficiate the chrome ore which benefit in all scenarios.

The push back from the chrome miners against the export tax takes place in this context. Prior to the increase in platinum prices, during 2019, South Africa's platinum firms were under threat, and a profitable chrome ore/UG2 ore export income stream ameliorated the losses suffered in the platinum industry during that period. A trade-off emerges between protecting the interests of mining companies or promoting beneficiation and downstream manufacturing.

The risk of no export tax is, however, the worst case as this sees the systematic decline of the ferrochrome industry, declining beneficiation, and consequently even greater levels of chrome ore exports which, given South Africa's overwhelming global dominance, will have a downward pressure on price.

THE BENEFITS OF AN EXPORT TAX ON CHROME ORE

The implementation of an export tax on chrome ore is critical for the sustainability of the ferrochrome industry. The export tax would see relative prices of chrome ore declining for the domestic ferrochrome industry, and would consequently encourage better capacity utilisation of existing ferrochrome assets that have been running below capacity or shuttered. Ferrochrome firms would benefit from foreign competitors (particularly in China) paying higher ore costs. Local ferrochrome firms that take advantage of this price advantage should over time beneficiate greater quantities of locally mined chrome ore.

The export tax also offers the potential for future new investment. New opportunities exist to attract international players, including from China, to produce domestically to access the commodity at pre-export tax prices; this will require investment facilitation and support to ferrochrome firms wishing to relocate to South Africa.

High energy costs and short-term availability of electricity remain the largest barrier to new capacity investment, with uncertainty on the cost of electricity undermining the business case for new investment. It is therefore important to note the Cabinet decision to implement the export tax is coupled with measures on investment in energy efficiency and co-generation.

Last, implementing an export tax on chrome ore would also generate significant revenues for the state and, depending on the rate of the tax, could be upwards of R5 billion a year – much needed at present.

THE ELEPHANT IN THE ROOM: ESKOM

Rising energy costs have significantly eroded the core competitiveness of the South African ferrochrome industry. On average, energy costs account for 29% for total costs in the production of ferrochrome, and

are the second largest cost after the chrome ore itself. Higher energy costs have had a significant detrimental impact on the industry, pushing South African costs above those in China, and onto a trend of diminishing global competitiveness.

Changing electricity costs have seen energy-intensive users' costs rise by over 150% in real terms since 2007. This is of great concern to the viability of heavy industry in South Africa, including the ferrochrome sector. A review of the electricity cost component of Chinese ferrochrome smelters saw their electricity prices decline from 2015 when the price of coal started to fall.

Ferrochrome consumes between 8% and 10% of Eskom's supplied electricity and the industry is Eskom's second largest client. It is therefore an important customer for the national utility and critical for its baseload. Eskom requires substantial take-up by baseload customers to remain viable. Further work is required to better understand the role of significant baseload customers on the pricing of electricity, which should reduce energy costs for the broader system by widening the client base. It also underscores the importance of shifting to cleaner and greener energy production. These issues are critical as the export tax could increase total South African electricity usage as domestic ferrochrome production comes back into service. The timing of stabilising the grid and the increase in ferrochrome production would have to be co-ordinated.

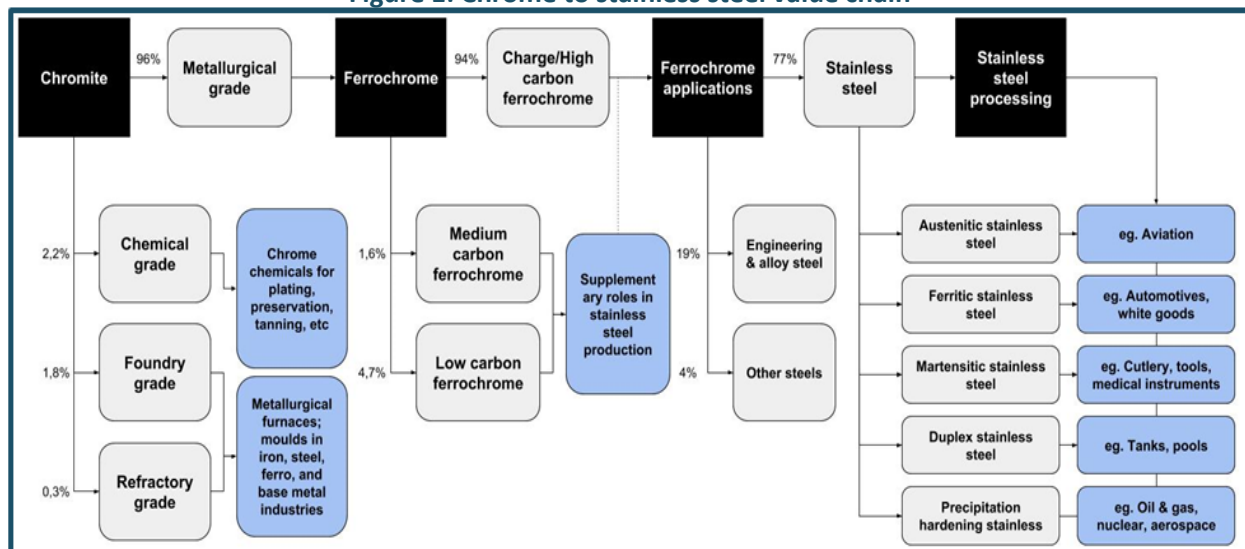
A further problem is the winter tariff, which sees a spike in the price of electricity during the winter months. A different approach is needed on the electricity winter tariff to smooth the pricing and therefore production throughout the year. Investment by ferrochrome firms in cogeneration and energy efficiency would take some of the pressure off Eskom.

CHROME TO STAINLESS STEEL VALUE CHAIN: THE NEED FOR A CHROME VALUE CHAIN STRATEGY

An export tax is a blunt instrument and this measure alone, while giving respite to the ferrochrome industry, will not guarantee the development of the value chain and result in the much needed downstream industry and job creation. A chrome value chain strategy is required and its implementation would need to take place in concert with the export tax. These measures would firstly strengthen and grow the South African ferrochrome industry, and on the back of that growth, support the development of the downstream industry.

Key elements of such a strategy are detailed below and the approach is one in which the ferrochrome industry must also contribute. This contribution cannot simply be further reinvestment in the ferrochrome industry capacity but should also include

Figure 1: Chrome to stainless steel value chain



Source: TIPS image based on International Chromium Development Association (ICDA) 2015, Overview of the global chrome market, and Industrial Development Corporation (IDC) 2018, South Africa's chrome value chain – a strategic perspective.

pledges to further develop the value chain, transform the industry, and create benefits for workers and communities adjacent to production facilities. The downstream industry will contribute significantly more jobs opportunities and also open up space for small businesses that are considerably less energy intensive.

A ferrochrome industry is often considered a stepping stone towards the development of the stainless steel industry, and one aim of the export tax would be to unlock this type of downstream development. The development of local ferrochrome production would, however, not naturally lead to growth in the stainless steel industry, and therefore requires further industrial policy interventions.

While ferrochrome is an important industry in its own right – offering greater growth, beneficiation, and export revenues than the export of raw chrome – the industry should be viewed as an intermediary or stepping stone in a long-term vision of developing the downstream and high-value portions of the value chain. Downstream development should take a comprehensive view of chrome with opportunities in chrome chemicals and their applications, or chrome metal castings. But the core focus must be on the development of a stainless steel industry, and the subsequent development of production capacity that uses this stainless steel, such as the manufacture of consumer goods including household appliances.

Developing stainless steel is a complex proposition, with significant global competition, and with the industry considered highly strategic in many parts of the world. South African efforts to develop stainless steel will need to be based on a network of long-term interventions, which should be guided by a comprehensive downstream strategy document. The current economic realities and global slowdown arising from COVID-19 would need to be factored into such a strategy.

Nevertheless, stabilising the ferrochrome industry is a necessary precondition for developing stainless steel capacity. Thereafter, efforts will be needed to strengthen existing stainless steel capacity – firms such as Columbus stainless steel – and partnerships with ferrochrome firms to assist their expansion into production further along the value chain.

Initial recommended measures include:

- Investment by ferrochrome firms in energy efficient technologies, cogeneration capacity and renewable energy to reduce energy costs and ensure price competitiveness in ferrochrome production;
- Establishing a preferential pricing arrangement for the domestic supply of ferrochrome into the South African stainless steel industry at a developmental price;
- Support for the downstream industry through industrial finance. Institutions such as the IDC, and the Small Enterprise Finance Agency (SEFA) have an important role to play in enabling the entry of new players, and should be done in partnership with small business support funds, banks and other private sector finance institutions;
- Utilising existing government support measures such as the Black Industrialist Programme to facilitate entry of new players into products that use stainless steel; and
- Providing support for new downstream industry development through facilitates in the SEZs.

CONCLUSION

An export tax on chrome ore will give domestic ferrochrome producers a competitive advantage over international producers with minimal disruption to the chrome ore miners. It will help stabilise and grow the domestic ferrochrome industry. The export tax alone will, however, result neither in a shift in the industrial structure nor growth in the downstream industry, and therefore requires using additional industrial policy measures in conjunction with the tax.