UNIVERSITY OF JOHANNESBURG

CCRED
CENTRE FOR COMPETITION, REGULATION AND ECONOMIC DEVELOPMENT

Localisation in South Africa: Analysis of key emerging issues

Elvis K. Avenyo, Teboho Bosiu and Julius Nyamwena

CCRED-IDTT Working Paper 2023/1

March 2023

The Centre for Competition, Regulation and Economic Development (CCRED) is an academic research centre housed in the School of Economics at the University of Johannesburg's College of Business and Economics. CCRED specialises in research, teaching and advisory services for government and non-governmental organisations on competition policy, industrial development and value chains in Southern and East Africa.

The Industrial Development Think Tank (IDTT) is supported by the Department of Trade, Industry and Competition (the dtic) and is housed at CCRED in partnership with the SARChI Chair in Industrial Development at the University of Johannesburg. CCRED Working Papers contain work in progress by CCRED and IDTT researchers. They may include documentation which is not necessarily published elsewhere. CCRED Workings Papers are published under the responsibility of the author(s) alone.

About the authors

Elvis K Avenyo is a Senior Researcher at the Centre for Competition, Regulation and Economic Development (CCRED) at the University of Johannesburg.

Teboho Bosiu is a Researcher at the Centre for Competition, Regulation and Economic Development (CCRED) at the University of Johannesburg.

Julius Nyamwena is an Associate Researcher at the Centre for Competition, Regulation and Economic Development (CCRED) at the University of Johannesburg.

CCRED: Centre for Competition, Regulation and Economic Development
JBS Park
69 Kingsway Ave, Auckland Park, Johannesburg, 2092
E-mail: infoccred@uj.ac.za | www.competition.org.za
CCRED publications can be downloaded free of charge from
www.competition.org.za/publications

UNIVERSITY OF JOHANNESBURG

CCRED
CENTRE FOR COMPETITION, REGULATION AND ECONOMIC DEVELOPMENT

the dtic
Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA

SARChI
SARChI Chair:
Industrial Development

Abstract

This paper examines localisation in South Africa and explores the opportunities and implications of South Africa's localisation policy through 3 key approaches. The first approach entails extensive review of the theoretical and empirical literature to determine the international experiences of localisation and how these experiences contrast with that of South Africa. The second approach centralises South Africa's localisation policy, and discusses the current policy at a much granular level against existing industrial development initiatives. Lastly, based on extensive engagements with policymakers and industry stakeholders, we assess the current localisation policy, its targets and tools at a granular level. Based on these approaches, the paper identifies a mix of localisation ingredients suitable for the South African context. Our preliminary analyses also reveal that appropriate industrial policies combined with the appropriate 'ingredients' of localisation are needed to advance industrial development and structural transformation in South Africa. The kind of support envisaged in the localisation policy can work only when the circumstances are "right". We discuss these emerging issues in line with South Africa's localisation policy and structural transformation agenda.

Keywords: Localisation; Manufacturing; Industrial Policy; South Africa

Table of Contents

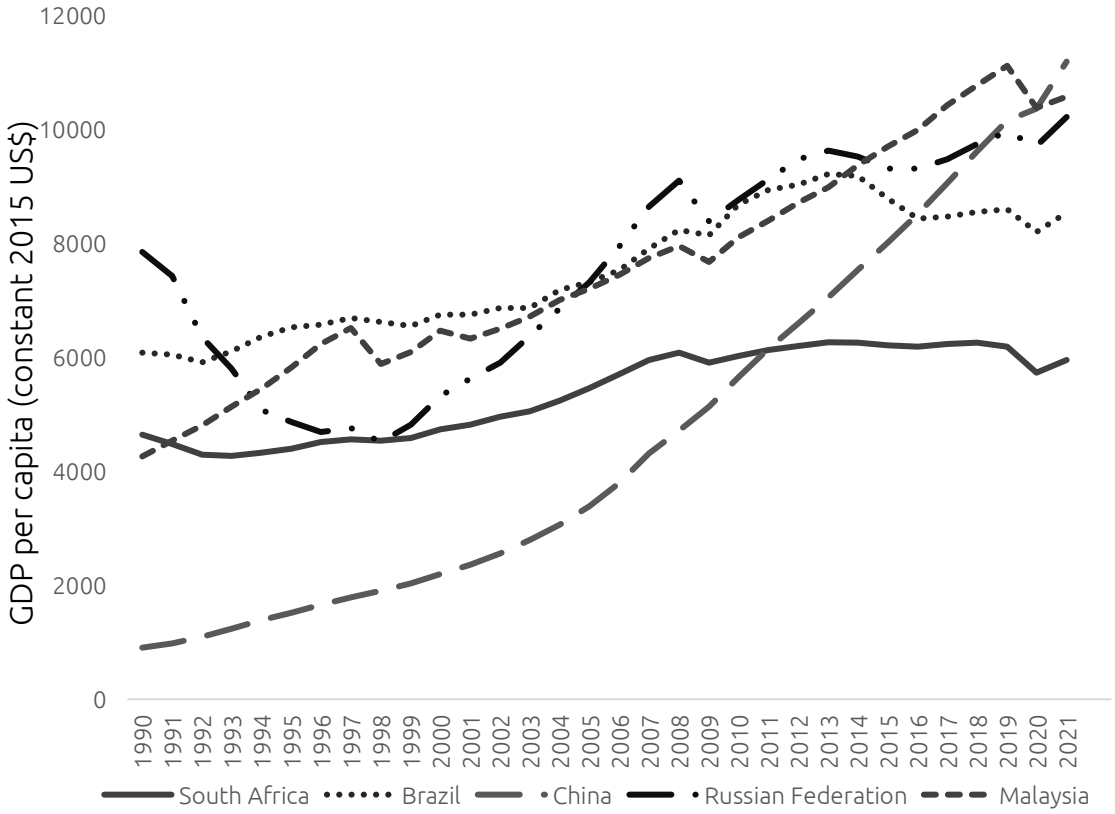
List of Figures

List of Tables

1. Introduction

The South African manufacturing sector has underperformed since the start of the democratic era (Andreoni et al., 2021; DTIC, 2021). In fact, there is evidence that South Africa has prematurely de-industrialised and now stuck in the middle-income technology trap (Andreoni & Tregenna, 2021). As a result, the country has struggled to diversify and achieve sustained and even industrial development, leading to a weakened structural transformation process (Andreoni et al., 2021). These issues are further worsened by the increasing over-propensity to import products that could otherwise be produced in South Africa (DTIC, 2021). For instance, a significant fraction of industrial inputs, intermediate goods and consumer products are imported from manufacturers beyond the borders, leading to worsening balance of payment issues. Figure 1 portrays the worsening GDP per capita of South Africa compared with comparator countries between 1990 to 2021.

Figure 1: GDP per capita (constant 2015 US$) in selected countries: 1990-2021



Source: Authors based on World Bank's World Development Indicators (WB WDI)

Reversing these challenges and trends through industrial policy remains a key policy goal (Andreoni & Tregenna, 2021). Industrial policy is critical for the development of local manufacturing capability for continuous and even structural transformation process. Developing and growing a local manufacturing production base for reindustrialisation in South Africa is emphasised in several academic and policy documents (Andreoni et al., 2021; DTIC, 2021). This is based on the classical evidence that a dynamic manufacturing base is important engine of economic growth given that it has one of the strongest stimulatory effects and economic multipliers of any of the broad sectors of the economy (Hirchman, 1958; Kaldor 1966). Manufacture of goods stimulates growth in ancillary industries like

packaging, logistics and transport, component manufacture, and other service sectors needed to bring the goods to market (DTIC, 2021). Importantly, local manufacturing activity stimulates the creation of jobs in support industries. For instance, for every job created or sustained in the manufacturing industry, nearly 4 jobs are created or sustained in direct and indirect supplier industries across the economy (DTIC, 2021).

A locally diversified and transformed industrial base in South Africa has the potential to provide opportunities for more women, youth and people with disabilities to play their role in building the economy and driving growth (DTIC, 2021). Also, increased localisation fostered through promotion of SME's can reduce harmful economic concentration (DTIC, 2021), and reinforce other policy instincts and priorities including transformation and the creation of black industrialists (CDE, 2021).

Consequently, the Government of South Africa has placed emphasis on localisation as one of the policy tools to be utilised to leverage and develop local industrial capacity, with a view to increasing employment, economic inclusion, and overall improvement of competitiveness across the economy. The Preferential Procurement Policy Framework Act (PPPFA) in 2002, and subsequent amendment in 2011, through Section 8: (i) empowers the DTIC to designate specific industries/sectors for local production to meet a specified level of local content; (ii) orders state organs to include local content in their bid invites; (iii) renders a bid that fails to meet the required local content to be unacceptable.[1] At the core of localisation policy is the desire to improve local industrial capacity, through utilisation of state procurement levers and reduction of the use of imported products (final and/or intermediate) in favour of locally produced products, where feasible.

While this may be a more direct and practical way to initiate the implementation of the policy, it is a narrow approach that would need to be broadened to include business-to-business (B2B) transactions, given that government procurement alone may catalyse but cannot sustain growth. It is presently unclear how the policy is expected to extend to the wider economy. The process of designating products (with minimum local content) for localisation is often delinked from the wider context and agenda of structural transformation. Also, there are arguments that the policy will effectively protect inefficient local producers from international competition, which may compromise quality and lead to higher prices (CDE, 2021). Given the already entrenched market positions of lead firms, this outcome is certainly not unlikely.

Thus, it is crucial to engage with stakeholders across the policy space and different sectors to determine who the biggest winners and losers are likely to be, with the view to ensuring a balanced distribution of benefits (and rents), appropriate targeting, and strong conditionalities. This needs to be aligned with a broader structural transformation agenda. For instance, it is important that the products selected are in high value-adding economic activities that have strong linkages with the wider economy, particularly with labour-absorbing downstream industries. More broadly, there is a lack of evidence consolidating both the local and international experiences of localisation, and critically examines the

[1] See Department of Trade, Industry and Competition (DTIC), 2021. Policy Statement on Localisation for Jobs and Industrial Growth. Available here: http://www.thedtic.gov.za/wp-content/uploads/Policy_Statement.pdf

conditions and basis for local content thresholds, as well as experiences of policymakers and industry stakeholders.

This paper adds to this evidence base by providing a review of the localisation experiences of comparator countries, and a rigorous primary data analysis of South Africa's localisation policy and agenda. Specifically, the paper examines localisation in South Africa, and explores the sectoral opportunities and implications of South Africa's localisation policy through 3 key approaches. The first approach entails extensive review of the theoretical and empirical literature to determine the international experiences of localisation and how these experiences contrast with that of South Africa. The second approach centralises South Africa's localisation policy and discusses the current policy at a much granular level against existing industrial development initiatives. Lastly, based on extensive engagements with policymakers and industry stakeholders, we assess the current localisation policy, its targets and tools at a granular level. The paper enhances the localisation policy and its implementation from these perspectives.

The remainder of the paper is structured as follows. Section 2 presents and discusses the methodological approach employed in the paper. Section 3 provides an understanding of the conceptual issues on what localisation means and discusses several selected dimensions of localisation and the experiences from many parts of the world. Section 4 focuses on localisation and localisation policy in South Africa, and discusses the various initiatives implemented to localise certain production activities in South Africa. Section 5 discusses the emerging issues from our empirical analyses. Section 6 presents some key policy ingredients needed for a successful localisation strategy in South Africa. Section 7 concludes the paper.

2. Methodological approach

The overall methodological approach of the paper is threefold. Firstly, the paper conducts an in-depth review of the literature to characterise localisation more broadly. The review interlinks the following three broad spheres of work: import substitution (i.e., localisation) as a tool for industrial development; implications for economic structure and competition dynamics; and state procurement and local content thresholds as anchors of localisation. The framework is then used as the basis for the overall analysis of the design of South Africa's localisation policy.

Secondly, the paper analyses several policy documents to understand the theory of change of the localisation policy in terms of inputs and envisaged outcomes. Different incentives and tools that have been adopted over the years are also analysed to give a comprehensive overview of South Africa's experience with localisation. Key questions that this part of the analysis engages with include the following:

a. What have been the objectives of the various localisation initiatives undertaken?
b. What have been the envisaged targets and outcomes of such initiatives?
c. What tools have been used to drive localisation across the different sectors in which the policy has been adopted?

Thirdly, we complement the conceptual analysis by presenting findings from in-depth, semi-structured interviews with policy makers and industry stakeholders to get a nuanced first-hand understanding of the challenges and opportunities South Africa's localisation policy presents. In terms of the key policy makers, we interviewed the Department of Trade,

Industry and Competition (DTIC) given that the responsibility of what sectors and products to prioritise for localisation lies with the DTIC. The industry stakeholders consulted include sub-industry associations as they are often the main lobbyists for selection of some products over others, with proximity to industry-specific production processes and issues. Moreover, as opposed to individual firms, the associations were better placed to provide broader and industry-wide insights.

As elaborated further below, a key lever for South Africa's localisation policy is state procurement. The interviews aimed to gather insights into the presently utilised tool (state procurement) to drive the localisation policy. The discussions broadly covered perspectives on the effectiveness of state procurement; selection of priority sectors or products; and implications for overall economic structure, costs, inclusion of SMEs, among others. We had a different set of questions tailored to policy makers, and another to industry associations. Some key questions we explored with policy makers include:

a. What informs the selection of the designated products?
b. What informed the current local content thresholds and what's the best criteria for setting up of thresholds?
c. Is there a clear sense of local production capacities for each selected product?
d. Has the DTIC considered potential unintended negative externalities on price, quality, concentration, etc.?
e. How does the government plan to extend the localisation policy to include a wider set of industries and firms in the private sector?
f. What have been the challenges and opportunities with the Local Procurement Accord (LPA)?
g. Is there a process or system for implementation of the localisation policy? What have been some of the challenges?

The following key questions were explored with industry associations:

a. What specific products produced by your members are affected by the localisation policy?
b. What are the local production capacities in the production of the affected products?
c. Given local production capacities, are the current thresholds related to those products achievable?
d. What other products (presently not designated) should have been designated?
e. Are your members that produce the designated products likely to meet the import reduction target (of 30% by 2025) that was set by the DTIC?
f. Would the stated targets lead in any way to price increases of the final products produced by your members?
g. What challenges are your members likely to face in increasing local production (or meeting the stated thresholds) for the designated products?
h. What factors are likely to make the localisation policy un/successful?
i. What kind of support do firms need to take advantage of the current localisation policy?

Table 1 below provides a brief profile of interviewees and the respective dates the interviews were conducted.

Table 1: Profile of interviewees

Stakeholder code	Stakeholder type	Date of interview
PMI01	Policy Maker	12 October 2022
IAI01	Industry Association	30 November 2022
PMI02	Policy Maker	9 December 2022
PMI03	Policy Maker	18 January 2023
IAI02	Industry Association	7 February 2023

3. Understanding localisation - Conceptual issues

There is a plethora of theoretical and empirical evidence, as well as (cross) country case studies from countries such as Brazil, Japan, and South Korea, highlighting the role of local industrial development in accelerating economic growth and development (see, for instance, Balasa, 1970; Pack & Westphal, 1986; Kim, 1991). The development of local industrial capacity and capabilities also supports economic self-sustenance and reduces vulnerabilities and susceptibility to external shocks (Noy, 2018).

Generally, inward-looking development strategies have roots in the statist development theory (Chang, 1994;Rapley, 1996). An inward-looking strategy fundamentally entails the expansion of domestic production capacity to meet local demand, that is localisation of production. The strategy also entails supporting import-competing industries to ensure that local capacity is developed and strengthened. These interventions are aimed at resuscitating manufacturing industries by encouraging production of goods locally and in the process reducing the import bill and creating jobs (Balasa, 1970). This involves a shift from the free-market approach which advocates for limited state intervention to the recognition that economies needed more state intervention than they had previously received in the past. The argument for increased state intervention is based on the assertion that it provides greater direction and vision needed for the industrialisation process (Stiglitz, 1996; Kay 2009; Storm 2015).

In line with these, state-led development strategies were widely embraced after the second World War by the new independent nations in Asia and Africa (Balasa,1970 & Menocal, 2006). They are promulgated on the basis that their effective use may provide a channel for fostering industrialisation and as a tool for redistribution (Martinussen, 1997). The merit of state intervention is often underpinned by the need to address the imbalances in the economic structures of underdeveloped economies. The move to greater state intervention is a response in part to the acknowledgement of market failures that are inherent features of unfettered markets (Chang & Rowthorn, 1995). There are success stories of how state-led interventions have contributed to the turnaround of many industrialised economies in achieving rapid industrial transformation and ameliorating economic structural challenges (Kohli, 2004).

Hence, "localisation" has been used to refer to "the process and the result of a moral, political, and practical support for locally owned businesses (including co-operatives, community enterprises etc.) which use local resources, employ locals, and serve primarily local consumers" (Frankova & Johanisova, 2012:309). Another perspective posits that localisation entails the "decentralisation of settlement, government and production, and

communal ownership of capital" (Hines, 2000:4). Localisation, therefore, is underpinned by a government's intervention through appropriate plans and programmes of action to institutionalise the development of local production capacity with the objective of increasing domestic manufacturing capacity and capabilities and in the process creating jobs (Grossman, 1981; Singer,2012; Ramdoo, 2016).

The literature has identified several advantages and disadvantages of localisation of manufacturing in developing countries. Primarily, the adoption of a localisation approach is informed by the desire to target (local) industrial and technological development, value creation or addition, wealth increase, employment creation and the development of backward, forward, and sideways linkages along value chains (Stone et al., 2015; UNIDO, 2016; Ramdoo, 2016). As such, localisation is associated with significant economic benefits such as increased economic growth which emanates from the rise in the domestic manufacturing base. This increases the local manufacturing and has further economic benefits such as the creation of jobs and increased tax revenues (Singer & Alizadeh, 1988; Pack & Saggi, 2006;Ramdoo, 2016).

Secondly, localisation is also useful in the sense that it allows infant industries to become internationally competitive through initial protection, subsidies, and other forms of government support (Westphal, 1982). The idea is that productive capabilities improve over time and domestic producers have access to larger markets through protection from initially superior competitors. Over time, domestic producers are expected to achieve economies of scale more rapidly, then reduce unit costs and as a result become more cost efficient and competitive. A larger market and more production experience result in faster productivity growth.

Thirdly, localisation can be vital in technology transfer if businesses are compelled to transfer technology, such that the end quality of their product (using local input) does not durably lag that of international competitors (Lee,1997). Learning by doing and capacity building in domestic supply are the results of technology transfer by localisation.

Lastly, localisation can assist in developing a manufacturing base that can meet local demand. Global developments such as financial crises and the COVID-19 pandemic which led to the shortening and regionalisation of supply networks reemphasised the need for countries to develop some local manufacturing base. Similarly, the new global pressures around climate change will mean a greater focus on localising the sites of production, to avoid the enormous cost of carbon emissions which come from transporting goods across the world (Kamal-Chaoui & Robert, 2009; Mott et al., 2021).

However, localisation has undesirable costs and outcomes. For instance, localisation can reduce the international competitiveness of a country's own industries and undermine domestic economic diversification by reducing input availability (Singer,1961; Furtado,1976; Silva, 2007). The allocation of resources under a localisation regime may lead inefficiencies in resource allocation as the most efficient productive sectors may not necessarily be allocated productive inputs for production (VanWyk, 2018). Another potential drawback is that industries that benefit from a localisation strategy might not ultimately survive without sustained government assistance. Critics of localisation policies argue that it may distort trade by disadvantaging imports which in turn reduces competition between domestic manufacturers and foreign competitors (Warwick, 2013). Lastly, localisation might increase employment in one industry in its initial phases but can decrease the returns to other factors

(for instance, higher input prices and hence reduced competitiveness), ultimately leading to job losses domestically.

Despite these challenges, there is a surge by many countries to adopt more inward-looking development strategies, including the use of import substitution industrialisation, local content thresholds and exports-oriented approaches (outward-oriented approach).

At the core of an import substitution industrialisation (ISI) approach is the development of local industrial capacity to serve both the domestic and export markets (Balasa, 1970). The theoretical justification of ISI comes from theories such as the Prebisch and Singer Hypothesis (PSH). The PSH implies that barring major changes in the structure of the world economy, the gains from trade will continue to be distributed unequally (and some would add, unfairly) between nations exporting primary products and those exporting mainly manufactures (Toye & Toye, 2003). As a result, ISI is anchored on the protection of local infant industries through protective tariffs, import quotas, exchange rate controls, special preferential licensing for capital goods imports, subsidised loans to local infant industries, local content policies etc. (Teitel & Thoumi,1986; Singer & Alizadeh,1988; Ogujiub et al., 2011).

The underlying presumption is that demand for imported goods can be redirected to domestic firms, promoting expansions in output, employment, and knowhow in local manufacturing (Baer,1972). In some cases, localisation has been made effective with some form of domestic industry protection (Singer & Alizadeh,1988; Balasa, 1970; DSBD, 2020). The objective of adopting ISI is to drastically reduce imports across a broad range of product categories consumed locally either by the government, businesses, or households (Singer,1961; Chenery et al., 1974; CDE, 2021). Furthermore, the ISI represents the foundation phase for building capacity for a future export-led economy, as the home market mitigates the risk against low product demand (Leudde-Neurath, 1985; Jones & Sakong, 1980; Amsden, 1989). Implementing ISI entails prioritising industries identified by the state as crucial to a country's economic future and by enacting regulations to protect those industries during the infant stage of development (Zambakari, 2012). Hence, industrialisation through localisation is essentially "import substitution industrialisation" (CDE, 2021).

On the other hand, export-led industrialisation (EI) is centred on fostering exports and is anchored by insulating export activity from the otherwise adverse consequences of policies motivated by other concerns (Westphal, 1990). This approach also known as the export-oriented approach, forms the second stage in the import substitution process that is driven by exports supported by the rapid domestic production capabilities and capacity (Teitel & Thoumi, 1986). This approach thrives in circumstances where there are free trade regimes that promote the movement of capital and intermediated inputs used in export production without tariffs and quotas.

Lastly, local content thresholds (LCTs) generally require domestic firms in specific industries to utilise local resources or inputs produced domestically in their production processes or value chains (OECD, 2016). Local content requirements seek to promote increased local participation by directing the utilisation of indigenous companies in the procurement of goods and services, employment of locals and the use of local raw materials (Tordo et al., 2013). This may include employment or inputs, goods and services procured from local sources, locally hired workforces, operations carried out in partnership with local entities,

development of enabling infrastructure, the improvement of domestic capacity, or the improvement of local content capabilities. The use of the local threshold is targeted at improving the local capabilities which aid in the industrialisation process, and in the process build domestic capabilities (physical investment, human capital, and technological effort) (Nelson, 1981).

LCTs are informed by careful analysis that looks at the whole value chain of the product. This process aids the government to ascertain the benefit of targeting a certain product and its impact on the economy. This analysis also considers the economic conditions and the competitive dynamics. Local content thresholds promote procurement from local suppliers as measures to stimulate domestic demand in the economy.

While localisation through ISI, EI, and LCTs as a panacea for industrial development is still debatable, the evidence emerging from country case studies is much mixed. The successful industrialisation of Brazil was attributed to the central role played by the government as it was able to play a developmental actor role (Baer,1972, Singer & Alizadeh, 1988). This active role of the state included encouraging and protecting development of infant industries. For example, in Brazil, the government established state-owned companies in the secondary sectors of the economy with particular focus on industries such as steel, minerals, petroleum, and chemicals (Balasa, 1970). These industries are root industries with most of the products being intermediate products and have strong linkages to much of manufacturing sector. The strong linkages offered the by these industries enabled the ISI substantial scope for capacity-building of the domestic economy, including transfer of accumulated expertise (Dell,1988). Furthermore, the Brazil government provided cheap loans through state development banks to support these roots 'favoured' industries. This was critical in offsetting the heavy financial requirements faced by firms. Government direct participation in Brazil also involved the construction of supporting infrastructure designed to complement the specific industries identified by the state (Baer,1972).

The case of South Korea, a country that has achieved rapid economic growth and international competitiveness in several industries (Pack & Westphal, 1986), deserves a special attention. South Korea's development from an agrarian economy to a modern industrialised nation was spearheaded by the government through the pursuit of an outward-oriented economic strategy. The South Korea case shows how a state intervention can sharpen the economic development trajectory of countries (Kim,1991). An interesting piece of history in the Korean experience reveals that before the outward-oriented approach was embarked on, the country first embarked on import substitution in 1950s. The South Korean manufacturing at that time was still rudimentary and quite small with few natural endowments (Lall,1997). Korea adopted import substitution to develop the building of both the human and physical infrastructure which facilitated the genesis of the industrialisation (Amsden, 1989, Kim, 1991). Therefore, in as much South Korea's rapid industrialisation is often associated with the outward –oriented approach, it was birthed by the earlier import substitution strategy. The industries that benefited from the export boom in Korea include textiles but also key root industries such as petrochemicals, iron and steel, non-ferrous metals, and refined oil. The industries that later formed the backbone of the development strategy for both the upstream and downstream industries. Other measures pursued by Korea was the use of strong financial support and the use of protectionist tools such as tariffs to protect certain industries from cheap imports (Kim,1991).

Both Brazil and Korea cases reveal a bias towards the industrial sectors through the promotion of vertical integration. However, in some countries like Argentina, Chile and Venezuela the ISI had a focus on consumer goods industries (backward integration). The rationale for targeting consumer goods industries was that these industries have relatively lower capital requirements and mostly used simple technology. Other examples include Argentina and Chile who employed tariffs which were significantly higher on imports of manufactured goods while Czechoslovakia and Hungary restricted the movement of imported goods by maintaining low prices of products such agricultural products and directing investments towards the manufacturing industries (Balassa, 1970). Norway provides a good example where local content requirements were adopted particularly in the extractive industry (oil and gas) to spur local industrial development. The policy mandated that foreign owned firms must source from local suppliers for a certain time period. The time bound was adopted to provide the local suppliers with time to develop their capabilities by ensuring that parameters and conditions of the procurement processes were clear for all (Veloso, 2006; Tordo, et al., 2013; Ramdoo, 2016).

On the contrary, the ISI in Brazil is found to have fundamental problems. For instance, the policy was found to result in insufficiency of capital since the country was reliant on foreign products as inputs in many manufacturing processes. This resulted in Brazil failing to produce and export enough goods due to the shortage of imported inputs to be used in the production process (Teitel & Thoumi, 1986). Another feature of the ISI especially in the Latin American countries was the use of foreign capital though less than 10% of the total savings (Baer, 1972). It was able to play an instrumental role in setting up key manufacturing industries through providing the expertise and organisational capabilities (Bruton,1970). However, the foreign capital presented challenges as countries became reliant on it. For instance, in Brazil, the policy resulted in insufficiency of capital which resulted in the country failing to produce and export enough goods due to the shortage of imported inputs to be used in the production process (Teitel & Thoumi, 1986).

The foregoing conceptual discussion posits that a country's industrialisation process is anchored by prioritising the development of the local capacity (Westpal, 1990). Subsequently, the country can adopt the export expansion strategy when the domestic capacity has grown to a point where the country has a competitive advantage in the production of many goods. While the evidence from comparator countries suggests mixed results, the discussion provides key elements that other developing countries like South Africa can draw from. In subsequent sections, we build on the above-discussed literature and international experiences, recognising the different political economy contexts, to draw insights for South Africa.

4. Localisation in South Africa

This section builds on the above-discussed literature and international experiences to draw insights from South Africa's own experience with previous and other ongoing localisation initiatives. While the international experiences are undoubtedly important, the political economy contexts within which some of the lessons are drawn are quite different from South Africa's context, with differing implications for the kinds of tools utilised and effectiveness thereof. This necessitates closer engagement, at a much granular level, with South Africa's own localisation attempts, to draw nuanced perspectives. The objective here

is to supplement the international experiences with local insights, to get much closer to the ideal mix of localisation ingredients relevant for South Africa.

The global financial crisis of 2008-2009 and the COVID-19 pandemic of 2020-2021, revealed the susceptibility of the global economy to various external shocks and exacerbated the economic problems facing the South African economy. The COVID-19 pandemic, for instance, resulted in unprecedented demand- and supply-side shocks to domestic spending, production, and investment activities for both the local and global economy. Manufacturing firms that relied on exports and those that imported key input raw materials were severely affected. These factors led to a decline in growth of the South African economy by 5% by the end of 2020 (Arndt et al., 2021). In reaction to the devastating effects of COVID-19, the South African government's recovery plan called for import replacement and the development of high-value sectors as one of the manufacturing-related interventions (ERRP, 2020).

The two crises have exposed the existing vulnerabilities with South Africa's manufacturing sector, which has undergone a process of premature deindustrialisation (Andreoni, Mondliwa, Roberts & Tregenna, 2021; Andreoni & Tregenna, 2021; Tregenna, 2009, 2015). The pre-1994 economy had been characterised by highly regulated and protected upstream manufacturing industries; and import substitution in key sectors. The development of some of the core industries was financed by the Industrial Development Corporation (IDC). The IDC was established in 1940 to promote local industrial development, giving rise to some of the key national strategic projects like Eskom, Sasol and Iscor (today ArcelorMittal) (Goga et al., 2019). Manufacturing activities were tightly linked to the extractive industries. In addition, import tariffs were put in place so that local industries could compete. For example, the agricultural sector was protected by placing high tariffs (through the Customs Tariff Act) on imported agricultural-related products, and increasing budgets for subsidies, thus laying the foundation for the exponential rise in commercial farming (DSBD, 2020).

However, in the immediate post-apartheid era, the protectionist approach was abandoned in favour of reduction of trade barriers and promotion of exports (Mondliwa & Roberts, 2021). The rapid liberalisation led to job losses and increased imports in certain manufacturing sectors, raising the need for localisation policies (Mondliwa and Roberts, 2021). As a result, a number of initiatives have been undertaken to improve local industrial capacity, through reduction of imports where local capacity existed or could be feasibly developed, and promotion of exports. Some of the initiatives include the National Industrial Participation Programme (NIPP); the Defence Industrial Participation Programme (DIPP); sectoral interventions including in automotive, energy and pharmaceuticals industries, as well as others identified in the Masterplans; and the Black Industrialist Scheme (BIS).

A detailed discussion of these initiatives, provided in the appendix, suggest that pockets of growth and success have been realised, albeit in a piecemeal manner.[2] The insights also suggest that outcomes might be quite mixed, and therefore lessons in both success and failure scenarios need to be learnt. For instance, there is a strong indication that both the NIPP and DIPP have been quite successful, having generated atleast R15 billion worth of investments into local industrial capacity development as at 2008. However, the programmes were apparently meant to be tied to the 1999 Strategic Defence Package (SDP), popularly known as the arms deal programme (Van Dyk et al., 2016). The arms deal

[2] See appendix A for further discussion of these initiatives.

has been tainted by controversy and accusations of corruption. The programme was envisaged to create 65,000 jobs. However, by 2006 only 13,000 had been created (Intellidex, 2021).

Nevertheless, the success of NIPP/DIPP can be attributed to clear and legally enforceable contracts between the DTIC and companies, that is in the interest of both parties. The interest on the companies' side is generated by the size of the transaction involved. The minimum transaction value of $10 million that triggers NIPP is quite substantial,[3] meaning the company involved is likely to concede to and implement the obligations of NIPP/DIPP.

In automotives, there have been clear increases in exports since the introduction of the Motor Industry Development Plan (MIDP) in 1995, and the subsequent Automotive Production and Development Programme (APDP) in 2013. The incentive for companies to export emanated from the credits earned which could be used to offset the import duties on some of the automotive components, effectively allowing companies to import components duty free. However, the nature of the incentives led to exports with high raw material content, but low automotive value added. As a result, amendments have been made to the first APDP that expired at the end of 2020. The new APDP puts emphasis on localisation and on value addition as it introduces the Volume Assembly Localisation Allowance (VALA) in place of the Value Assembly Allowance (VAA) (NAACAM, 2019). The changes are expected to increase the average local content in South African assembled vehicles from the present 40% to 60% by 2035 (DTIC, 2018).

In energy, the Energy Independent Power Producers Procurement Programme (REIPPPP) is lauded as one of the most successful government programmes in the past decade in terms of management and design, even as its track record of local procurement outcomes has been ambiguous (Montmasson-Clair & das Nair, 2015; Intellidex, 2021). The successes largely relate to stimulation of local and foreign investment into the country's energy sector, underpinned by lucrative offtake agreements with state's electricity company – Eskom. The potential project profitability was guaranteed by the purchase price agreements entered with Eskom, which stimulated the initial interest in the programme and attracted larger numbers of bidders (Montmasson-Clair & das Nair, 2015). In addition, the 20 year contracts entered into provide for security and sufficient time to recoup invested funds and earn profits.

Nevertheless, the local industrial capacity development envisioned as part of the programme remains constrained by two key factors. Firstly, the existing manufacturing base is small, and the megawatt capacity allocated per technology is inadequate to create sufficient aggregate demand for international companies to set up manufacturing sites in the country. Secondly, the definition of local content includes a range of components not necessarily related to actual manufacturing. For instance, all domestic expenditure qualifies as 'local', including civil works, engineering, project management, assembly of imported parts (Montmasson-Clair & das Nair, 2015).

In pharmaceuticals, the state-owned company – BioVac – has developed local capabilities to formulate vaccines. In 2021, it was announced that Biovac has been appointed to manufacture the Pfizer BioNTech COVID-19 vaccine for distribution within Africa, making it the first company on the continent to produce an mRNA-based vaccine (Presidency, 2021).

[3] Refer to appendix A for a detailed discussion on NIPP and DIPP

The success of BioVac was anchored on an exclusive supply agreement with the National Department of Health (NDoH) for the procurement, storage, and distribution of vaccines used in government's Expanded Program on Immunisation (EPI) (Walwyn & Nkolele, 2018). The offtake agreement guaranteed prices that were between 10 and 20 per cent higher than international competitors, resulting in significant growth in output and employment (Walwyn & Nkolele, 2018).

The success of BioVac has, however, been limited in some respects, given that South Africa still does not have capacity to produce active pharmaceutical ingredients (APIs). BioVac has only managed to develop capabilities for formulation, filling and finishing, and not the actual manufacturing of active ingredients (Tomlinson, 2021). Although BioVac has some knowhow for APIs, it does not currently have the capacity to produce them commercially, as that would require substantial investments (in the billions of Rands), which are currently unjustified given the short-term nature of the offtake agreements with the Department of Health (DoH) (Tomlinson, 2021).

The brief discussion of the various initiatives demonstrates that there are important lessons that can be drawn as government intensifies its implementation of yet another localisation initiative. The present initiative was established by government, in consultation with NEDLAC, subsequent to (and alongside some of) the discussed initiatives, and has culminated into the Preferential Procurement Policy Framework Act (PPPFA). The 2002 PPPFA (as amended in 2011 through Section 8) (i) empowers the DTIC to designate specific industries/sectors for local production to meet a specified level of local content; (ii) orders state organs to include local content in their bid invites; (iii) renders a bid that fails to meet the required local content to be unacceptable.[4]

At the core of the present localisation initiative is the objective to build local industrial capacity for both the domestic and export markets, among others, through the reduction of the use of imported products (final and/or intermediate) in favour of locally produced products, where feasible. In the short-term, the initiative aims to reduce South Africa's non-oil import bill by 20% over the next five years from 2021. The long-term objectives are to: reduce the proportion of imported intermediate and finished goods; improve the efficiency of local producers; and develop export competitive sectors that can expand the sales of South African made products on the continent and beyond (DTIC, 2021). A key lever of the current localisation initiative is state procurement.

The use of state procurement to drive economic development is not new (see, for instance, OECD, 2008). It is based on the fact that the government expenditure is a big part of the economy (Wittig, 2007). For example, the South African government expenditure in 2022 alone was R2.1 trillion, R1.97 trillion in 2021 and 1.79 trillion in 2020 (STATSSA, 2022). Therefore, leveraging on this is seen as advantageous for the state because prioritising local procurement offers a signal to manufactures that there is demand for their products. This presents opportunities for improving industrial activity by encouraging and boosting local producers to increase their production capacity and helps in drive towards industrialisation. In addition, state procurement has employment creation implications and as well as the

[4] See Department of Trade, Industry and Competition (DTIC), 2021. Policy Statement on Localisation for Jobs and Industrial Growth. Available here: http://www.thedtic.gov.za/wp-content/uploads/Policy_Statement.pdf

development of small, medium, and micro enterprises. This positions state procurement as a key tool for fostering industrialisation.

However, this is highly dependent on what the government is procuring as this can determine whether it can drive the industrialisation development. For instance, public expenditure is mostly comprised of consumer goods at the expense industrial goods and also the goods are often final goods and leaves out all the intermediary goods. As a result, leveraging heavily on the state procurement alienates other sectors of the economy. For instance, the manufacturing sector's need to be included since these are the custodians of any manufacturing that occurs and are better placed to identify where local capacity and gaps in the economy.

Critics of the local content requirement say that in some countries it has not worked because very little thought has been given to the term "local" in local content (Nwapi, 2015). Furthermore, the local content requirements have also attracted unrest because there are often seen going against the international trade agreements applicable to members of the World Trade Organization (WTO), particularly the General Agreement on Tariffs and Trade (GATT) (Veloso,2006). As a result, any successful implementation of the local content requirements should be informed by thorough analysis of both the current and potential capacity of the local manufactures to meet demand and that any local content declarations have to have be made within the WTO AND GATT requirements.

In summary, South Africa's experiences with localisation have had mixed outcomes. Moreover, the present localisation initiative has received mixed reactions, and thus necessitates closer engagement at a much granular level. In the subsequent sections, we supplement the international and local experiences with insights from stakeholder engagements in order to further understand the ideal mix of localisation ingredients relevant for South Africa.

5. Empirical analysis and emerging issues

In this section, we analyse the present localisation initiative and its objectives by contrasting it with the key emerging issues from our primary data and stakeholder engagements. The objective is to examine the effectiveness of state procurement and local content thresholds as levers to drive localisation and improvement of industrial capacity. This is important for several reasons. Firstly, given that South Africa is party to the World Trade Organisation (WTO) treaties, the tools available to effect localisation initiatives are limited, making it quite important to ensure that any tool chosen is utilised effectively. Secondly, matching the specific parameters and thresholds against the reality and perspectives of industries and firms allows for better policy alignment and implementation over the medium to long term. Thirdly, detailed engagement with the design of the initiative is critical for monitoring and evaluation to determine effectiveness, challenges, and limitations, and measuring outcomes of the programme over time. This will greatly assist policy makers and industry to adapt and comply effectively, towards a more effective policy. In that regard, we first examine the selection and prioritisation of products, followed by an analysis of the state procurement lever. We also analyse how business-to-business transactions are driving broader economic structural transformation in South Africa.

5.1 Selection and prioritisation of products

The amended PPPFA empowers the DTIC to identify products that government entities are compelled to procure locally. The DTIC has thus far designated 28 products (see appendix B for a list of designated products). It is noteworthy that the selected products fall within the broader set of priority sectors identified to be best placed to promote value addition, growth and employment in the South African economy (Avenyo et al., 2021). However, there are a number of other products/industries that have been omitted, despite these sectors being quite important for other national imperatives such as inclusion, as we discuss below. However, it is important to note that the current list of products as set out in the policy is not exhaustive and final as the process of designation is a continuous one. In fact, the DTIC has overtime reviewed local content designations and production thresholds for some sectors.[5] Our preliminary engagements with industry stakeholders suggest that the designated list of products or sectors was also a result of extensive lobbying by industry players.[6] We look more closely at the criteria followed in the selection of products/industries.

According to the DTIC, the criteria for selection of products or sectors considers a number of factors, including, strategic positioning of the industry; government expenditure on the product; import and export trends; local production capacity; and local market structure and competition dynamics. That is, there should be demonstrable evidence that the selected product is consumed by government and presently imported in large proportions even as there is capacity to produce it locally, otherwise the use of state procurement would be ineffective. Further, competition dynamics of the value chain within which the product falls are important to consider to avoid compromising on quality of the locally produced product, unjustified price increases, and increased entrenchment given an economy that is already highly concentrated. In a concentrated economy like South Africa, protection of large and few local producers from international competition could potentially increase entrenchment in the local economy and incentivise producers to price excessively while producing low quality products. Hence it is important to conduct an in-depth analysis of the selection criteria to bring to the fore a nuanced perspective. In that regard, our analysis raises three important issues worth examining closely: determination of government expenditure on specific products; consideration of local production capacity; and the definition of 'strategic' positioning of an industry.

5.1.1 Determination of government expenditure on specific products

One element of the selection criteria dictates that there must be a clear demonstration that government (through its various entities) consumes the product being designated, and that government spends substantially on the product on an annual basis.[7] This is central to the designation process since the implementation of the local content thresholds is premised on state procurement as a key lever. However, the challenge is that focus is placed on the final product, without consideration of the intermediate products (such as packaging) that make up the final product consumed by government. For example, in the case of the designated plastic products, industry representatives argue that one of the reasons for designation of only two plastic products (wheelie bins and plastic pipes) is that there are naturally few

[5] Interview with the PMI03, 18 January 2023
[6] Interview with IAI01, 30 November 2022
[7] Interview with the PMI03, 18 January 2023

complete plastic products that government consumes, whereas there would be a substantial amount consumed in other forms, such as packaging material used on a variety of complete products consumed by government.[8] This is not captured separately on government expenditure, and therefore missed by the product designation criteria.

Another example of a final product whose sole consideration masks the value of the associated intermediate product is table eggs. The current approach to designation would not even consider the trays used to package eggs because government does not directly consume these. That is, even if the egg tray industry possessed characteristics ideal for development of local industrial capabilities, it would automatically be excluded from designation as a result of the design of the designation criteria. Instead, if consideration of the importance of a product in relation to government expenditure included that in addition to direct state procurement, the DTIC considers indirect expenditure of the related intermediate products, then products such as these would atleast make it into the evaluation process. And these is not to say these products would automatically get selected, as they would still need have to be evaluated against the other elements of the criteria such as implication for local industry competition dynamics.

5.1.2 Consideration for local production capacity

As highlighted above, the DTIC has taken into consideration the level of local capacity to produce designated products. This is quite an important consideration given that the increased demand (through government procurement), in an environment where local production capacity of a designated product is limited relative to demand or productive capacity and potential, can lead to cost (procurement price) increases for government, with detrimental impacts on service delivery. Companies surveyed by Intellidex (2021) highlighted the risks of designation and setting of localisation thresholds where there is a deficit of local productive capacity, in that it could lead to price increases (Intellidex, 2021).

Engagements with the DTIC and analysis of its documents used to rationalise designation of some of products indicate that the DTIC is aware of the local production capacities for the selected products, although some sections of industry assert that there is no clear knowledge of the precise production capacities for some of the products. For example, one industry association representative interviewed (IAI01) indicated that it has only recently been commissioned to determine the production capacity for the manufacture of electric cables,[9] yet these are already designated and placed at 70% local content threshold.

Nevertheless, the important issue that has emerged is that in engaging with industry to determine the designated products, the DTIC limited the engagements to existing capacity without going further to determine the ability of industry to create new capacity in cases where there is limited or no capacity for a particular product. For example, IAI02 indicated that during the engagements, if the response from the industry was that there is limited/no local capacity for a particular product, government did not go further to establish the possibility of firms modifying their existing equipment so that they could produce that product (akin to processes of upgrading and attaining dynamic efficiencies in structural transformation literature). For example, in the case of injection moulding, a firm may state that it presently does not have capacity to produce a particular product, however in reality it

[8] Interview with IAI02, 7 February 2023
[9] Interview with IAI01, 30 November 2022

may be relatively easy for the firm to purchase the mould and utilise existing equipment to create capacity for the required product.[10]

In some cases, firms are able to adapt their production process to accommodate new demand or alternative but related products. For example, IAI02 noted that during the COVID-19 pandemic period, the plastic industry was quite flexible and agile as manufacturers responded to the increase in demand for face shields, screens and sanitizing bottles. Another example relates to EcoCasa – a black industrialist that manufactures cooler boxes. The company was also able to produce components that were needed to produce CPEP ventilators during COVID-19 when global supply was disrupted, even though this product was not its primary line of production.[11] The incentive of guaranteed offtake created by government enabled EcoCasa to effect minor modifications to the existing equipment and quickly add new capacity for production of those components.

In essence, designation of products only (or largely) in line with current production output as the main criteria, can mean that opportunities to leverage localisation thresholds to drive processes of upgrading, adaptation and dynamic efficiencies (precisely the processes understood in the economic complexity literature to be critical for structural transformation and manufacturing-led growth) may be missed. The above illustrations therefore also point to a key opportunity for the DTIC for subsequent rounds of designation – that is, establishing a framework for determining both present capacity and whether there are pockets of latent capacity or adaptable capabilities that can be leveraged towards new local production opportunities. It may be helpful therefore, for government to engage firms on what they could potentially produce utilising existing resources which may allow for a broadening of the pool of designated products over time that also stimulates production of 'new' products and upgrading within firms. It may be possible for government (in the short to medium term) to request firms to estimate and demonstrate potential capacity in key value chains (perhaps linked to sector master plans), with the state providing a medium to long term commitment to consider categories of 'new' products (that is, those not presently manufactured in South Africa for which local production processes could readily be manipulated to allow for future domestic production of those goods) for localisation designation in future once local production capacity is established and proven.

5.2 Use of state procurement levers to anchor the localisation policy

The public sector remains the largest consumer of goods and services in South Africa such that the promotion of localisation through public procurement is viewed as a critical lever available to the state (DSBD, 2020). Government spent over R80 billion on goods and services alone in the 2022/2023 financial year (National Treasury, 2023). Powers created in the PPPFA permit the DTIC to designate specific products that government departments must purchase from domestic manufacturers.

However, DTIC's powers to compel the procurement of specified goods exclusively from local providers are restricted to organs of state and cannot be imposed on businesses and households. If government sought to stipulate where private entities were to procure certain products domestically, it would violate World Trade Organisation (WTO) rules and South Africa's treaty commitments, and would be actionable through the WTO (Intellidex,

[10] Interview with IAI02, 7 February 2023
[11] Insights from the Black Industrialists conference held in October 2022

2021; CDE, 2021). Certain regulations stipulated under the WTO are against the use of import substitution and partially restrict the implementation of local content policies (Intellidex, 2021).

Thus, the only tool that the government can utilise to promote localisation is state procurement, although a recent 2022 Constitutional Court judgment has essentially invalidated the local content regulations. The judgement followed a legal battle that was instituted by Afribusiness NCP against the Minister of Finance challenging the 2017 amended version of the Preferential Procurement Regulations (Mandlana and Turker, 2022). The court set aside the Preferential Procurement Regulations published under the PPPFA (Mandlana and Turker, 2022). Subsequent to the judgement, the National Treasury has decided to halt enforcement of local content regulations until new regulations are developed.[12] This is a setback that will certainly derail achieving the set localisation targets, which are already considered to be highly ambitious (CDE, 2021; Intellidex, 2021).

State procurement, properly leveraged, has the potential to catalyse the process of industrial localisation, especially in the early phases of the localisation process by serving as 'offtake' that firms can rely on to increase capacities and improve competitiveness. This is not dissimilar to the role that credible offtake and price commitments by government have stimulated investments in the REIPPPP, with notable success and improvements in competitiveness over time. Without predictable government demand, it is less likely that certain firms will increase local production given the capital investment requirements and competitive pressures from foreign firms. Offtake is not only important for startup firms to enter and develop production capabilities related to the primary product, but equally important for existing and relatively established firms that may want to leverage latent capabilities to venture into production of new products, like the discussion of BioVac above in relation to production of APIs.

Lastly, while the public sector spends substantially on goods and services, creating important demand for local production, this demand has been difficult to utilise as offtake by firms to underpin capacity expansion. The reason is that it is highly disaggregated, uncoordinated and dispersed across many government entities, making individual transactions insignificant and unworthy for potential suppliers to increase capacity, or even simply go through the long list of local content documentation required.[13] Firms can only increase capacity when there is clear and substantial offtake demand sustained over a longer period. Thus, there needs to be a way to pool together state demand to act as an effective offtake to ensure local firms enjoy economies of scale and reduce production costs, which will make them competitive to even supply to other domestic businesses.[14] On the other hand, while aggregation of demand is critical, big bang demand that is typical with government infrastructure projects is also undesirable.[15] One industry association made a specific example of Eskom's Medupi and Kusile projects, and argued that local firms are unlikely to fully benefit (and increase capacities) from such large and infrequent projects.[16] Instead, government demand (especially infrastructure rollout) should be smoothed out

[12] Interview with the PMI03, 18 January 2023
[13] Interview with IAI01, 30 November 2022; IAI02, 7 February 2023
[14] Interview with IAI01, 30 November 2022; IAI02, 7 February 2023
[15] Interview with IAI02, 7 February 2023
[16] Interview with IAI02, 7 February 2023

over a longer period, thereby providing certainty and a good incentive for firms to increase capacity.

As demonstrated in the earlier sections, South Africa's manufacturing industry has lost competitiveness and declined in its contribution to value-addition and GDP since liberalisation in the1990s. Thus, state procurement may be an important tool to catalyse reinvestment and industrial upgrading in local industry with a view to building capabilities and export potential in future.

Unfortunately, state procurement has not been utilised effectively, even prior to National Treasury's decision to halt implementation of local content regulations. The chain from production of a product to procurement and consumption by government is disconnected and consists of multiple stakeholders whose activities are highly uncoordinated and difficult to monitor.[17] The process of implementation local content entails a procuring government entity issuing a tender bid for the particular product(s). The procuring entity is required to detail all the local content requirements related to that product in the bid document. Bidders can be any entity registered in government's database of suppliers, regardless of whether they are actual manufacturers or just distributors.[18]

The main challenge has been a disconnection between suppliers and the actual producers of the products they supply to government. In cases where suppliers (i.e., bidders) are not the actual producers, often they do not have detailed knowledge of the components that went into the production of the product. This leads to instances where the suppliers would often classify the product in the tender document as being locally produced by virtue of the fact that they sourced it from a company that is based in South Africa, even as the product may have not been produced locally. Essentially, there is no relationship/agreement between bidders and actual producers that compel them (producers) to disclose detailed product information to the bidders or distributors. In other instances, bidders do not even have access to producers, or know who the producers are, and/or where they are located. This happens in cases where bidders purchase from distributors and not directly from manufacturers. Thus, the procuring entities only have sight of the information provided by the bidders, many of whom are not manufacturers.[19]

In cases where bidders are manufacturers, some of the challenges arise when manufacturers feel uncomfortable sharing detailed manufacturing process information that they consider to be confidential or competitively sensitive. In such cases, bidders simply opt to withdraw from the bidding process.[20] The implication is that procuring entities may end up not being able to procure the goods they need, and therefore impact service delivery, or that they end up awarding tenders to uncompetitive bidders. The DTIC, together with procuring entities, have tried to mitigate this by holding workshops with potential suppliers to discuss the local content related information required by government so that suppliers do not end up sharing information they consider confidential.[21] The DTIC concedes that more of those engagements are needed to provide industry players with greater certainty.

[17] Interview with PMI03, 18 January 2023
[18] Interview with PMI03, 18 January 2023
[19] Interview with the PMI03, 18 January 2023
[20] Interview with the PMI03, 18 January 2023
[21] Interview with the PMI03, 18 January 2023

Lastly, there is little that procuring entities can do to verify the accuracy of the local content information provided by bidders, beyond the ordinary bid evaluation due diligence assessments conducted. Detailed verification of local content information is undertaken by the South African Bureau of Standards (SABS) post tender award. The reason for deferring verification is to avoid burdening the procurement processes of government entities which may impact on service delivery.[22] Whilst this is reasonable, the implication is that procuring government entities likely have awarded tenders to suppliers that do not meet local content requirements. The SABS Local Content division continuously conducts audits on awarded tenders to verify local content claims made by suppliers, and there have been instances where audits have revealed that tenders were awarded to suppliers that did not meet local content requirements.[23] In such instances, the information is relayed to the relevant procuring entities and left with them to take necessary recourse, without the involvement of the DTIC. Further, there are no reciprocal commitments that firms are required to make when being procured from under the localisation policy, even if it's just reporting back over time, or proving that access to state procurement also led to increased capacity and employment.

5.3 The role of B2B transactions and the broader economy

The previous discussion highlighted the anchor role played by state procurement; however, this role is quite limited. An overall goal should be to cast the net wide enough to cover business to business (B2B) transactions. That is, measures/incentives need to be developed to attract private businesses that do not necessarily transact with government to promote local procurement. For instance, national retailers are the major route to market for a majority of fast-moving consumer goods (FMCG). These can be leveraged to facilitate access to retail shelve space for locally produced products, especially those produced by SMMEs. Given that government cannot directly compel private businesses to procure locally, creative tools need to be developed to incentivise this behaviour within the context of a wider developmental coalition. The approach government has adopted has been based on persuasion and consensus and has managed to develop the Local Procurement Accord (LPA).

The LPA is a non-binding agreement signed in 2011 by social partners (government, labour, business and community) aiming to "mobilise business, unions, communities and government in a partnership to promote local procurement" (EDD, 2012). The common aspiration across the signatories is to achieve 75% localisation in the procurement of goods and services. Businesses committed to evaluate their supply chains and increase local procurement, especially from black-owned suppliers. Further, there were commitments to eliminate collusive and unethical behaviour including when supplying government; and to report annual progress, although there is no clarity to whom they were meant to report (EDD, 2012).

In addition to the commitments contained in the LPA, government is seemingly continuing the engagements with business on the implementation of the LPA. For instance, just before the COVID-19 pandemic, the Department of Small Business Development (DSBD) was reported to be finalising an implementation plan with major retailers, wholesalers and larger suppliers in the FMCG sector (DSBD, 2020). The plan was meant to include agreements on

[22] Interview with the PMI03, 18 January 2023
[23] Interview with the PMI03, 18 January 2023

the following areas: product quality standards and applicable certification processes; designated budgets for localisation initiatives; route to market plans including access to export markets; and implementation milestones and progress evaluation mechanism. Agreement on products for import replacement was already reached, and products selected (DSBD, 2020).

Further, DSBD has identified a basket of products most often purchased by spaza shops that can be used to support local SMME manufacturing (48 products), that are considered 'low hanging fruit' for localisation (DSBD, 2020). Given the size of the market that is serviced by township/ rural and informal/ micro businesses, if well-coordinated these enterprises can serve as critical routes to market for locally produced products (DSBD, 2020).

An Intellidex survey highlighted that, overall, businesses seem optimistic on the future potential of local production (Intellidex, 2021). Moreover, there have been some successes since the signing of LPA, particularly in the area of enterprise and supplier development (ESD). Supplier-development funds have been established, including those fostered through the equity-equivalent arrangements in the B-BBEE Codes, supporting SMMEs to enter supply chains of large corporates, and upgrade machinery, skills or marketing (DTIC, 2021; DSBD, 2020).

The main challenge that remains is how best to ensure that businesses implement the commitments in the LPA to the fullest. The major drawback with the LPA is that it is not legally binding.[24] Moreover, there is seemingly no mechanism in place to enforce and track implementation. On the government side whilst the LPA was initially championed by the then Department of Economic Development (EDD), there is presently some uncertainty as to which divisions within the DTIC are to lead this programme.[25] While there has been some progress with regards to ESD, the reality is that majority of local SMEs continue to face challenges accessing shelf space of national retailers or other routes to market (Das Nair and Chisoro, 2017; Bosiu et al., 2023). Those that have managed to be integrated in the supply chains of large corporates are limited in number. A deeper understanding of the successful case studies is needed to draw lessons for inclusion of many other SMEs. Importantly, more purposeful and direct engagements with lead firms in different value chains, such as national retailers, are needed to foster agreement on targets and implementation.

6. Ingredients for a successful localisation in South Africa

The foregoing discussions suggest that there is a mix of necessary conditions that are needed for a localization policy to be successful in any context, specifically South Africa. This section synthesizes some of these factors identified in both the international and local contexts.

Generally, there is potential to improve South Africa's industrial capacity through the present localization policy. However, what is needed is purposefulness and the ability to harvest low hanging fruits. For instance, government needs to seize the supportive prevailing political economy to drive the localization process much more aggressively. Our engagements with industry indicate that local firms appreciate the potential unlocked through state procurement and therefore are interested in the success of the localization

[24] Interview with PMI03, 18 January 2023
[25] Interview with PMI03, 18 January 2023

policy. A survey by a consultancy company – Intellidex – has also highlighted that, overall, business seem optimistic on the future potential of local production (Intellidex, 2021). Moreover, local firms already have competitive edge over foreign companies in that they can offer shorter lead times. While foreign suppliers can provide between 18 – 20 weeks lead times, local manufacturers' proximity to markets can guarantee about 6 weeks lead times.[26]

Lessons from international experiences and analysis of local dynamics have brought forth a number of policy ingredients that would make the present localisation initiative much more effective. We have identified three areas within which the proposed ingredients are applicable, and these are: effective use of state procurement levers; enforceability of commitments; and selection of products of designation.

Within the area of state procurement, it is important that the correct form of offtake is utilised to incentivise businesses to invest in local production capacity. State procurement as a form of offtake need to be aggregated and smoothed out for businesses to justify deployment of financial resources for building new capacities. Further, government need to impose conditionalities on the targeted firms (i.e., in the form of report back on capacity and employment changes overtime) and provide effective policing to ensure adherence to local content thresholds.

On enforceability of commitments, government needs to set clear and legally binding commitments with businesses. Moreover, there must be clear benefits expected to accrue to businesses in order for them to agree to such commitments. The success with some of the past initiatives have been underpinned by enforceable legal agreements between government and businesses. In the cases of NIPP and DIPP, there were clear legal obligations for businesses in exchange for lucrative transactions with government. In the cases of pharmaceuticals and energy sector interventions, there have been clear and binding offtake agreements that guaranteed security of demand and prices. Thus, government must find ways to tie commitments/implementation to some kind of benefit to businesses; in some cases, the benefits can be in form of access licences, funding, etc. Further, commitments should be time bound. This helps in avoiding breeding inefficient industries or creating dependency on preferences (OECD, 2017b).

On selection of products for designation, government must undertake a detailed analysis of the capacity of local suppliers and get a good understanding of the needs of the industry, to assess what gaps need to be addressed and the potential for scaling up. Moreover, capacity analysis should not be limited to existing capacity but extended to cover potential capabilities. That is, there is a need to establish a framework to determine present capacity and whether there are pockets of latent capacity or adaptable capabilities that can be leveraged towards new local production opportunities. Firms need to be engaged on what they could potentially produce by utilising existing resources which may allow for a broadening of the pool of designated products over time that also stimulates production of 'new' products and upgrading within firms. Moreover, measures should be taken to support firms to build local production capacities, including through training, skills development, access to innovation centres, technical support to improve product quality and access to finance, among others.

[26] Interview with IAI01, 30 November 2022

Furthermore, the challenge with the present designation process is that focus is placed on the final product, without consideration of intermediate products (such as packaging) that make up the final product consumed by government. There is, therefore, a need for holistic consideration of potential products for designation.

We summarise the proposed ingredients in table 2 below.

Table 2: Ingredients for a successful localisation policy in South Africa

Area	Ingredient
Effective use of state procurement	• Aggregate and smooth demand
	• Provide effective policing (i.e., capacitate the SABS' Local Content Division)
	• Impose conditionalities (i.e., report back on capacity and employment changes overtime)
Enforceability of commitments	• Clear time bound and legally binding commitments
	• Clear benefit to the firm(s)
	• Tie commitments/implementation to some form of benefit (i.e., funding, license, etc.)
Selection of products for designation	• Undertake a detailed analysis of the capacity of local suppliers
	• Consider agility of firms to utilize existing resources to create capacity for other products
	• Consider intermediary products (i.e., packaging products)

Lastly, and in addition to the specific ingredients discussed, government must address business climate constraints. This implies ensuring that the business climate is conducive to investments and private sector development and is competitive; basic soft and hard infrastructure are available, reliable, and competitive; the country has the necessary legal frameworks in place to guarantee intellectual property rights and innovation; and local businesses have access to finance.

7. Conclusion and policy recommendations

The development of local manufacturing capability is critical for a country's structural transformation process, and its participation and upgrade in global value chains. South Africa's localisation policy aims to develop local industrial capacity, with a view of increasing employment, economic inclusion, and the overall competitiveness of the economy. This paper draws on an established literature, both theoretical and empirical, and stakeholder engagements to examine South Africa's localisation policy. The paper follows three main approaches. The first approach entails extensive review of the theoretical and empirical literature to determine the international experiences of localisation and how these experiences contrast with that of South Africa. The second approach centralises South

Africa's localisation policy, and discusses the current policy at a much granular level against existing industrial development initiatives. Lastly, based on extensive engagements with policymakers and industry stakeholders, we assess the current localisation policy, its targets and tools at a granular level. These approaches helped us to identify key mix of ingredients suitable for localisation in the South African context.

Based on the synthesis of the literature and analyses of data from policy and industry stakeholders, the emerging issues highlight the critical role of localisation policies in setting the industrial development trajectory of countries. However, we identified that the experiences, in terms of successes and failures, are mixed across different countries. Our preliminary analyses of the data reveal that appropriate industrial policies combined with the appropriate 'ingredients' are needed to advance industrial development and structural transformation in South Africa. This finding further underscores the key role of localisation and wider industrial policy for structural transformation in South Africa.

However, the kind of support envisaged in the localisation policy can work only when the circumstances are "right". At minimum, for instance, there would be a need for offtake agreements that supports investment in plant, machinery and knowhow for a significant period of time. State procurement is one way that's already being leveraged for offtake, although there is need for coordination and effective monitoring. The South Africa's economy has experienced and continues to suffer from several pervasive and long-standing problems, such as the high levels of concentration, premature de-industrialisation, lack of meaningful participation and inclusion (Nyamwena & Bell, 2021). The use of the state procurement may need to consider these prevailing challenges in the local economy. Government would need to incentivise businesses to reinvest their surplus profits in local manufacturing activities, in line with recommendations by CDE (2021).

There are real constraints that have held back localisation in the past; and unless these are addressed, the full success of localisation efforts will not be realised. These include key factors that have been identified by the DTIC (2021): cost structures (including energy and logistics), availability of critical infrastructure (spectrum and energy-availability) and skills constraints. In line with DTIC (2021), a well-focused localisation programme needs to be accompanied by economic reforms, including those directed at energy, spectrum, transport and logistics, environmental as well as skills challenges.

More pertinent today is the need to broaden 'local' to mean Africa as a whole. The African market represents a R7 trillion market opportunity for goods manufactured on the continent to replace those currently being imported from outside of the continent (DTIC, 2021). The introduction of the African Continental Free Trade Area (AfCFTA) provides South Africa with an opportunity to access market opportunities across the continent (DTIC, 2021). The development of regional value chains across the continent further offers the opportunity to create market linkages between regions and integrate supply-chains (DTIC, 2021). Given these enormous opportunities, South Africa needs to start reformulating and redefining its 'local'isation policies to 'regional'isation policies in order to organise, lead, and capture value in emerging regional value chains.

References

Amsden, A.H. 1989. Asia's Next Giant: South Korea and Late Industrialization. New York: Oxford University Press.

Andreoni, A. & Tregenna, F., 2021. The middle-income trap and premature deindustrialization in South Africa. In Andreoni, A., Mondliwa, P., Roberts, S. & Tregenna (eds). *Structural transformation in South Africa: the challenges of inclusive industrial development in a middle-income country*, p.237.

Andreoni, A., Mondliwa, P., Roberts, S. & Tregenna, F. 2021. Structural Transformation in South Africa: The challenges of inclusive Industrial development in a middle-income country. Oxford University Press.

Automotive Industry Export Council. (2013). Automotive Export Manual 2012. Pretoria, AIEC.

Baer, W. 1972. Import substitution and industrialization in Latin America: Experiences and interpretations. *Latin American Research Review*. 7(1), pp.95-122

Baer, W., da Fonseca, M.A. & Guilhoto, J.J. 1987. Structural changes in Brazil's industrial economy, 1960–1980. *World Development*, 15(2), pp.275-286.

Balassa, B. 1970. Growth strategies in semi-industrial countries. *The Quarterly Journal of Economics*, 84(1), pp.24-47.

Barnes, J. & Black, A. 2014. The Motor Industry Development Programme 1995-2012: What have we learned? International Conference on Manufacturing-led Growth for Employment and Equality, May 2013. Available at: https://www.tips.org.za/files/the_midp_-_15_april_2014_barnes_and_black.pdf. Accessed 22 March 2023.

BioVac. 2020. Biovac in the context of COVID-19. Parliamentary Monitoring Group Presentation. Available at: https://static.pmg.org.za/200602BIOVAC_revised.pdf. Accessed 22 March 2023.

Bosiu, T., Nsomba, G. & Vilakazi, T. 2020. South Africa's Black Industrialists Scheme: Evaluating programme design, performance and outcomes. CCRED Working Paper 1/2020.

Breitenbach, M.C. & Slabbert, T.J.C. 2008. Globalisation's ugly stepsister: estimating some economic impacts of localisation in South Africa.

Bruton, H.J.1970. The import-substitution strategy of economic development: A survey. *The Pakistan Development Review*. 10(2), pp.123-146.

CDE. 2021. The siren song of localisation: why localisation will not lead to industrialisation. November 2021.

Chang, H. J. 1994. State, institutions, and structural change. *Structural Change and Economic Dynamics*, 5(2), pp. 293-313

Chang, H.J. & Rowthorn, R. 1995. The role of the state in economic change.

Chenery, H., Ahluwalia, M.S., Bell, C.L.G., Duloy, J.H. & Jolly, R 1974. Redistribution with Growth. Oxford University Press.

Cimino, C., Hufbauer, G.C. & Schott, J.J. 2014. A proposed code to discipline local content requirements. Peterson Institute for International Economics Policy Brief February.

De Beer, J.B. 2014. Armscor Witness Statement. Arms Procurement Commission of South Africa. Available at: https://www.justice.gov.za/comm-sdpp/hearings/witness-statements/ws-debeer-p001-048.pdf. Accessed 23 March 2023

Dell, S. ed., 1988. *Policies for development: essays in honour of Gamani Corea*. Springer

Department of Science and Technology (DST). 2013. Ketlaphela: South Africa government's ARV manufacturing project enters next phase. Media Statement. Available at: https://www.gov.za/ketlaphela-south-africa-governments-arv-manufacturing-project-enters-next-phase. Accessed 23 March 2023

Department of Small Business Development (DSDB). 2020. Smme-Focused Localisation Policy Framework and Implementation Programme. Presentation to Parliamentary Monitoring Group, 18 Norvember 2020. Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fstatic.pmg.org.za%2F201118Localisation_Policy_Framework_for_SMME_Participation.pptx&wdOrigin=BROWSELINK. Accessed 23 March 2023

Department of Trade, Industry and Competition (DTIC). 2008. The National Industrial Participation (NIP) Report. Available at: http://www.thedtic.gov.za/wp-content/uploads/nipp-report2008.pdf. Accessed 23 March 2023
Department of Trade, Industry and Competition (DTIC). 2013. The National Industrial
Department of Trade, Industry and Competition (DTIC). 2018. Geared for Growth: South Africa's Automotive Industry Masterplan to 2035. Available at: http://www.thedtic.gov.za/wp-content/uploads/Masterplan-Automotive_Industry.pdf. Accessed 22 March 2023
DTIC. 2020. Local Content Policy and Designation: Measures to Ensure Compliance and Verification. Presentation to the Portfolio Committee on Trade and Industry, 11 March 2020
DTIC.2021. Policy Statement on Localisation for Jobs and Industrial Growth. 18 May 2021
Dunne, J. P. & Lamb, G. 2004. Defence industrial participation: the experience of South Africa. Arms Trade and Economic Development: Theory Policy and Cases in Arms Trade Offsets. Oxford, UK: Routledge. https://doi. org/10.4324/9780203392300_chapter_19, 284-298.
Edwards, L., Sanfilippo, M. & Sundaram, A. 2017. Importing and Firm Export Performance: New Evidence from South Africa. *South African Journal of Economics*. 86, pp. 1-19
Frankova, E. & Johanisova, N. 2012. Economic Localization Revisited. Environmental Policy and Governance. 22,307-321.
Furtado, C. 1976. Economic Development of ical Background and Contemporary Problems, 2d University Press.
Goga, S., Bosiu, T. and Bell, J.F. 2019. The Role of Development Finance in the Industrialisation of the South African Economy. CCRED Working Paper 9/2019.
Grossman, G.M. 1981.The Theory of Domestic Content Protection and Content Preference", *Quarterly Journal of Economics*, November, pp. 583 – 603.
Harvey D. 2006. Spaces of global capitalism: Towards a theory of uneven geographical development. Verso: London.
Harvey, D.I., Kellard, N.M., Madsen, J.B. & Wohar, M. E. 2010. The Prebisch-Singer hypothesis: four centuries of evidence. *The review of Economics and Statistics*, 92(2), pp.367-377.
Hines C. 2000. Localization: A global manifesto. Earthscan: London.
Hirschman, A. 1958. The Strategy of Economic Development. New Haven: Yale University Press.
Hufbauer, G.C., Schott, J.J., Cimino, C., Vieiro, M. & Wada, E. 2013. Local Content Requirements: Report on a Global Problem.
Intellidex. 2021. Localisation What Is Realistic? An Independent Study. Prepared By Intellidex for Business Unity South Africa and Business Leadership South Africa.
Kay, C. 2009. Development strategies and rural development: Exploring synergies, eradicating poverty, *The Journal of Peasant Studies*, 36 (1), 103-137, doi:10.1080/03066150902820339
Kaldor, N. 1966. Causes of the Slow Rate of Economic Growth of the United Kingdom: An Inaugural Lecture. Cambridge: Cambridge University Press.
Kamal-Chaoui, L. & Robert, A. (eds.) 2009. Competitive Cities and Climate Change. OECD Regional Development Working Papers N° 2, 2009, OECD publishing, © OECD.
Ketlaphela. 2013. Request for Information for Qualification. Available at: https://www.dst.gov.za/images/ketlaphela.pdf. Accessed 23 March 2023
Ketlaphela. 2020. A State-Owned Pharmaceutical Company. Parliamentary Monitoring Group Presentation. Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fstatic.pmg.org.za%2F201118Ketlaphela.pptx&wdOrigin=BROWSELINK. Accessed 23 March 2023
Kim, K.S. 1991. The Korean miracle (1962-1980) revisited: myths and realities in strategy and development. Notre Dame, IN: Helen Kellogg Institute for International Studies, University of Notre Dame.
Kohli, A., 2004. State-directed development: political power and industrialization in the global periphery. Cambridge university press.
Kuntze, J.C. & Moerenhout, T. 2013. Local content requirements and the renewable energy industry – a good match? ICTSD
Lall, S. 1997. Attracting foreign investment: new trends, sources and policies (Vol. 31). Commonwealth Secretariat.
Lee,Y.S. 1997. Technology Transfer and Public Policy. Quorum Books. London

Makinana, A. 2021. Ten years and millions of rand later, state pharmaceutical company exists 'only in name'. Sowatan Article. Available at: https://www.sowetanlive.co.za/news/south-africa/2021-04-12-ten-years-and-millions-of-rand-later-state-pharmaceutical-company-exists-only-in-name/. Accessed 23 March 2023

Martinussen, J. 1997. Society, state, and market: A guide to competing theories of development. HSRC Publishers.

Menocal, A.R.2006. The State They're in: An Agenda for International Action on Poverty in Africa.

Mondliwa, P. & Roberts, S. 2021. The Political Economy of Structural Transformation: Political Settlements and Industrial Policy in South Africa In: Structural Transformation in South Africa: The Challenges of Inclusive Industrial Development in a Middle-Income Country. Edited by: Antonio Andreoni, Pamela Mondliwa, Simon Roberts, and Fiona Tregenna, Oxford University Press.Oxford University Press 2021. DOI: 10.1093/oso/9780192894311.003.0014

Montmasson-Clair, G. a& das Nair, R. 2015. The Importance of Effective Economic Regulation for inclusive Growth: Lessons from South Africa's Renewable Energy Programmes. CCRED Working Paper 10/2015.

Mott, G., Razo, C. & Hamwey, R. Carbon emissions anywhere threaten development everywhere. Global Carbon Project. United Nations Conference on Trade and Development.

NAACAM. 2019. APDP and the SA Automotive Masterplan. NAACAM Business Guide. Available at: https://naacam.org.za/wp-content/uploads/pdf/page18.pdf. Accessed 22 March 2023

Nelson, R.R. 1981. Research on productivity growth and productivity differences: dead ends and new departures. *Journal of economic literature*, 19(3), pp.1029-1064.

Nwapi, C. 2015. Defining the "Local" in Local Content Requirements in the Oil and Gas and Mining Sectors in Developing Countries.

Nyamwena, J & Bell, J. 2021. South Africa's economic recovery plans: What are the missing pieces for a sustainable and inclusive drive towards industrialisation? CCRED-IIDTT Policy Brief

OECD 2015. Local-content requirements in the solar- and wind-energy global value chains. Overcoming Barriers to International Investment in Clean Energy, OECD Publishing, Paris.

Ogujiuba, K., Nwogwugwu, U. & Kike, E. 2011. Import substitution industrialization as learning process: Sub-Saharan African experience as distortion of the "good". Business and Management Review. 1(6), pp. 08 – 21.

Pack, H. & Westphal, L.E., 1986. Industrial strategy and technological change: theory versus reality. *Journal of development economics*, 22(1), pp.87-128.

Pack, H. & Saggi, K. 2006. The Case of Industrial Policy. A Critical Survey, published by Oxford University Press on behalf of the International Bank for Reconstruction and Development, The World Bank.

Participation (NIP) Revised Guidelines 2013. Available at: http://www.thedtic.gov.za/wp-content/uploads/Nip_Guidelines2013.pdf. Accessed 23 March 2023

Presidency. 2021. President Cyril Ramaphosa welcomes Biovac-Pfizer collaboration. Media Statement. Available at: https://www.gov.za/speeches/president-cyril-ramaphosa-welcomes-biovac-pfizer-collaboration-21-jul-2021-0000. Accessed 22 March 2023

Ramdoo, I. 2015. Industrial Policies in a changing world: What prospects for low-income countries. E15 Expert Group on Reinvigorating Manufacturing: New Industrial Policy and the Trade System. Think piece. International Centre for Trade and Sustainable Development and World Economic Forum.

Ramdoo, I. 2016. Local content policies in mineral-rich countries. An overview. ECDPM. Discussion Paper No. 193.

Rapley, J. 2007. End of development or age of development? *Progress in Development Studies*. 8(2), pp.177-182.

Segal, G. 2019. A tale of two volatilities: Sectoral uncertainty, growth, and asset prices. *Journal of Financial Economics*. 134(1), pp.110-140.

Singer. H.W. 1961.Trends in Economic Thought on Underdevelopment. Social Research, Winter. The Johns Hopkins University Press. 28(4), pp. 387-414.

Singer, H.W. & Alizadeh, P. 1988. Import substitution revisited in a darkening external environment. pp. 60-86. Palgrave Macmillan UK.

Silva, E. 2007. The Import-Substitution Model: Chile in Comparative Perspective. *Latin American Perspectives*, 34(3), pp. 67–90. http://www.jstor.org/stable/27648023
Stephenson, S. 2013a. Addressing Local Content Requirements in a Sustainable Energy Trade Agreement. ICTSD and Global Green Growth Institute.
Stephenson, S. 2013b. Addressing local content requirements: Current challenges and future opportunities. Biores 7(3), pp. 123-153
Stiglitz, J. E. 1996. Some Lessons from the East Asian Miracle. *The World Bank Research Observer*, 11(2), pp. 151–177. http://www.jstor.org/stable/3986429
Stone, S., Messent, J. & Flaig, D. 2015. Emerging Policy Issues: Localisation Barriers to Trade. OECD Trade Policy Papers No. 180. OECD Publishing. Paris.
Storm, S. 2015. Structural change. *Development and Change*, 46 (4), pp. 666-699.
Teitel, S. & Thoumi, F.E. 1986. From import substitution to exports: the manufacturing exports experience of Argentina and Brazil. *Economic Development and Cultural Change*. 34(3), pp.455-490.
Tomlinson, C. 2021. After a rough 17 years, is Biovac finally on track? Daily Maverick Article. Available at: https://www.dailymaverick.co.za/article/2021-01-28-after-a-rough-17-years-is-biovac-finally-on-track/. Accessed 22 March 2023
Tordo, S., Warner, M., Manzano, O. & Anouti, Y. 2013. *Local content policies in the oil and gas sector*. World Bank Publications.
Toye, J.F. & Toye, R. 2003. The origins and interpretation of the Prebisch-Singer thesis. *History of political Economy*. 35(3), pp.437-467.
United Nations Industrial Development Organization (UNIDO). 2015 Industrial Development Report 2016. The Role of Technology and Innovation in Inclusive and Sustainable Industrial Development. Vienna.
Van Dyk, J. J., Haines, R., & Wood, G. 2016. Development in adversity: South Africa's defence industrial participation in perspective. Scientia Militaria: South African Journal of Military Studies. 44(2), pp. 146-162.
Van Wyk, R.J. 2018. Technological advance: unravelling the strands. In *Technological Change, Development and The Environment*. 1(2), pp. 322-340. Routledge.
Veloso, F.M. 2006. Understanding Local Content Decisions: Economic Analysis and an Application to the Automobile Industry. *Journal of Regional Science*.46(1), pp.748–749
Walwyn DR, Nkolele AT. 2018. An evaluation of South Africa's public-private partnership for the localisation of vaccine research, manufacture and distribution. Health Res Policy Syst. 2018 Mar 27;16(1):30. doi: 10.1186/s12961-018-0303-3. PMID: 29587777; PMCID: PMC5870219
Warner, M. 2011. Do local content regulations drive national competitiveness or create a pathway to protectionism? Local Content Solutions Briefing No. 5.
Warwick, K. 2013. Beyond industrial policy: Emerging issues and new trends.
Westphal, L.E. 1982. Fostering technology mastery by means of selective infant-industry protection. World Bank Series Number 253.
Westphal, L.E. 1990. Industrial policy in an export-propelled economy: lessons from South Korea's experience. *Journal of Economic perspectives*. 4(3), pp.41-59.
Zambakari, C. 2012. Underdevelopment and Economic Theory of Growth: Case for Infant Industry Promotion. Consilience, pp.171-187.

Appendices

Appendix A

Below are some of the various localisation initiatives implemented in South Africa since the 1990s.

National Industrial Participation Programme (NIPP)

One of the first post-apartheid localisation initiatives involved the establishment of the National Industrial Participation Programme (NIPP). The NIPP was promulgated in 1996 to leverage economic benefits and increase investments into the country - anchored on state procurement (DTIC, 2013). Under NIPP, before the government concludes and finalises a procurement agreement with a foreign or local company with an import value of more than US$10 million, the company is required to sign an obligation agreement with the DTIC pertaining to development of local industry. That is, an NIPP obligation is placed on the recipient company to reinvest a portion of the costs in South Africa. The NIPP obligation is calculated as 30% of the imported portion of the purchase contract and can be fulfilled through local economic activities that have the potential to make a positive impact on developing the local industry.

Defence Industrial Participation Programme (DIPP)

Established alongside the NIPP, the Defence Industrial Participation Programme (DIPP), targeted the development of the country's local defence industrial base (Dunne and Lamb, 2004). The DIPP requires all contracts entered into by the Department of Defence and its suppliers (with an import value of between US$2 million and US$10 million) to have obligations related to local industrial capacity development (De Beer, 2014). All military-related DIPP activities are managed by Armscor while other non-military portions are managed by the DTIC (Van Dyk et al., 2016). Prior to the supplier being awarded a tender, they need to submit a DIPP proposal. For the agreement to be concluded and the purchase contract signed, the DIPP proposal must be assessed based on the extent to which it supports the capabilities required in the defence industry. Some of the stipulated capabilities include strategic design, development, manufacturing, logistical support and upgrade capabilities for a technologically advanced defence force (Van Dyk et al, 2016). The DIPP set a penalty of 10 percent to be levied by Armscor, on unfulfilled portions of the obligations (Dunne & Lamb, 2004).

Apparently, both NIPP and DIPP were meant to be tied to the 1999 Strategic Defence Package (SDP), popularly known as the arms deal programme (Van Dyk et al., 2016). However, the programme has been tainted by controversy and accusations of corruption. The programme was envisaged to create 65,000 jobs. However, by 2006 only 13,000 had been created (Intellidex, 2021).

Despite the challenges with the arms deal, there is a strong indication that these programmes have been quite successful. In fact, SDP generated about R15 billion worth of DIPP obligations. A substantial number of contracts with a NIPP/DIPP obligation have yielded tangible improvements in local industrial capacity development. **Error! Reference s ource not found.** below provides a list of some these contracts as of 2008, alongside their obligations.

The impact has been apparent with direct investments made, for instance, into automotive components manufacturing; mineral beneficiation (use of platinum in catalytic converters); local manufacture of military equipment/vehicles for the export market; setting up of SME funding instruments in partnership with national DFIs; and establishment of production facilities for a range of manufacturing activities (including biomass pellets, railway axles for export markets, steel, etc). The success of NIPP/DIPP can be attributed to clear and legally enforceable contracts between the DTIC and companies, that is in the interest of both parties. The interest on the companies' side is generated by the size of the transaction involved. The minimum transaction value of $10 million that triggers NIPP is quite substantial, meaning the company involved is likely to concede to and implement the obligations of NIP/DIPP.

Table 3: List of contracts entered into under NIPP/DIPP, 2008

Defence			
Obligor	Contract	Obligation value	Implementation status
BAE Systems	Hawk/Gripen	$7,200,000,000	Implemented
GSC Ferrostaal	Submarines	€2,852,460,454	Implemented
Thales	Combat suites	$652,408,990	Implemented
Agusta LUH	Light utility helicopter	$767,930,000	Implemented
Agusta Westland	Super Lynx	£108,644,495	Implemented
Denel	GBADS	$17,500,000	Implemented
MBDA	Armscor	€18,000,000	N/A
Non-defence	Contract	Obligation value	Implementation status
Eurocopter	South African Police	$13,923,107	Implemented
Boeing	SAA	$237,500,000	Implemented
Safran	SAA	$33,600,000	Implemented
Airbus	SAA	$452,846,000	Implemented
Areva	ESKOM Nuclear Koeberg Maintenance	$68,554,942	Implemented
Sumitomo	ESKOM: Upgrade Arnot Power Station	$84,634,064	Implemented
Damen Shipyards	DEAT	$5,580,000	Implemented
Prodiba	DOT	$8,680,000	Implemented
Far Ocean Group	DEAT	$4,800,000	Implemented
Jan de Nul	NPA	€9,480,000	Implemented
Beretta	SAPS	€2,500,000	N/A
Bombela Consortia	Gautrain	R1,880,000,000	N/A
Ford Motor Co SA	Fleet vehicles	R65,000,000	N/A
General Motors SA	Fleet vehicles	R70,200,000	N/A
Liebherr Crane Containers	SAPO	€24,760,000	N/A
MARS	Spoornet	$25,220,000	N/A
Nissan SA	Fleet vehicles	R29,740,000	N/A

Toyota SA	Fleet vehicles	R65,000,000	N/A
Siemens	Turbines for Eskom	R1,130,000,000	N/A
Ericsson	Telecomm equipment for Telkom	$ 22,000,000	N/A
Honeywell	Eskom	$14,000,000	N/A
Amadeus	SAA	$21,000,000	N/A

Source: DTIC (2008)

Both the NIPP and DIPP are direct initiatives aimed primarily at enhancing localisation. In addition to these, however, there have been other initiatives aimed at other sections of the economy, but with embedded localisation requirements. One of them is the government's Black Industrialist Scheme (BIS) – a funding scheme aimed at increasing the participation of black-owned enterprises in the productive sector of the economy. The others have been more sector-focused, and we discuss these below.

The Black Industrialist Programme (BIS)

The BIS was established in 2016 by the DTIC with the primary aim of transforming the manufacturing industry in South Africa through increasing the qualitative and quantitative participation of black owned manufacturing firms in the economy (Bosiu et al., 2020). This was on the back of an understanding that the development of the manufacturing sector generally, and broadening participation within it, is critical for industrial development and economic growth. The scheme provides concessional funding to BIs in the form of loans, investment grants and export market exploration support. The pre-qualifying criteria consists of a range of factors, including demonstration that projects to be supported will contribute to the economy in terms of the criteria set out below (**Error! Reference source not found.**3). Localisation is one of the elements considered, with the applicants required to demonstrate that the project will increase the localisation of production activities.

Table 4: Economic benefit criteria under the BIS

Employment	Securing/retaining/increasing direct employment	1
Market share	Securing new business operations, and/or increasing existing business operations	1
Quality improvement	Reduction of relative prices and/or increasing the quality of products to consumers	1
Green Technology and Resource Efficiency Improvements	Savings or better utilization of energy or materials and/or cleaner production improvement and/or waste management improvement and/or water usage improvement and/or use of renewable energy	1
Localisation	Increasing the localisation of production activities (diversification and exports)	**1**
Regional spread	Projects should be in rural areas or areas with unemployment higher than 25%	1
Personal risk	Demonstrate own financial and/or non-financial contribution to the business	1

Empowerment	Achieve at least a level 4 B-BBEE contributor status as per revised B-BBEE codes of good practice published in October 2013	1

Source: Adapted from Bosiu et al. (2020)

The results of a survey of black industrialists conducted by CCRED in 2019, indicated that a significant proportion of the beneficiaries were implementing measures to increase use of local materials in their production processes, albeit a significant proportion resorting to importing some of the input materials because they are simply not available locally (Bosiu et al., 2020). Specifically, the survey found that 43% of beneficiaries source all their input materials locally, with about 40% sourcing under half of their input materials from outside South Africa (Bosiu et al., 2020).

It is however important to draw the distinction that the BIS is not a localisation initiative per se, like the other two discussed. It is one of the ways in which procurement from local sources has been incentivised, by making localisation one of the economic benefit criteria elements upon which an applicant for funding scores one point if they can satisfactorily demonstrate that their product will be made of a minimum proportion of local materials. Although an applicant wouldn't necessarily be denied funding if they don't score on the localisation element, as the overall decision to provide funding relies on several other factors. Moreover, successful applicants are not required to report on this element post funding award. Nonetheless, the BIS demonstrates how other programmes can be leveraged to incentivise firms to produce or procure locally.

Automotive sector

The first initiatives to target localisation in the auto sector were embodied in the Motor Industry Development Plan (MIDP) established in 1995. The objective of MIDP was to assist the local automotive industry become internationally competitive by reducing tariffs and increasing exports, with the target of transforming the industry from just vehicle assembly to components production and ultimately full manufacturing (Barnes & Black, 2014). The MIDP awarded both export and import credits to vehicle and component manufacturers. However, the provision of import credits was partly counterproductive in the sense that it drove up imports. That is, the ability to offset import duties by credits received through exporting enabled importers to bring in vehicles at lower effective rates of duty. Hence, total imports of vehicles and components increased rapidly since the inception of the MIDP, from R16.4 billion in 1995 to R 136.1 billion in 2012 (AIEC, 2013). Moreover, import credits could be earned on the full local content value of exports, including raw material content, leading to a strong export incentive on products with high raw material content but low automotive value added (Barnes & Black, 2014). The implication has been little change in local content since the introduction of the MIDP (Barnes & Black, 2014).

The MIDP was replaced by the Automotive Production and Development Programme (APDP) in 2013, which prioritised domestic production and localisation of automotive components. The implementation of the APDP led to the growth in automotive exports by 96.4%, between 2013 and 2019 (Intellidex, 2021). Value addition in the sector also increased (Intellidex, 2021), although this is likely partly due to recognition of certain standard materials[27] as local value addition (Barnes & Black, 2014). Nevertheless, the programme

[27] For example, platinum, leather and non-ferrous metals

failed to meet its target of producing 1 million vehicles per annum by 2020. Domestic production was approximately 640,000 vehicles in 2019 and 608,000 in 2018 (Intellidex, 2021). Moreover, formal employment fell from 120,000 in 1995 to 90,000 in 2014 (Intellidex, 2021).

Amendments have been made to the first APDP that expired at the end of 2020. The new APDP puts emphasis on localisation and on value addition as it introduces the Volume Assembly Localisation Allowance (VALA) in place of the Value Assembly Allowance (VAA) (NAACAM, 2019). The changes are expected to increase the average local content in South African assembled vehicles from the present 40% to 60% by 2035 (DTIC, 2018).

Energy sector

The notable programme under this sector is the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP). The REIPPPP is a public-procurement programme designed and implemented to introduce and progressively increase the supply of renewable energy a part of South Africa's energy mix. Renewable power producers tender to provide energy to Eskom at the price agreed upon at the beginning of the contract. The tender scoring process is weighted 70% on price and 30% on other development factors (Montmasson-Clair and das Nair, 2015). These development factors include emphasis on local content and job creation, each accounting for 25% of the total score points allocated to development factors (Montmasson-Clair & das Nair, 2015). The minimum qualifying local content threshold is 40% or 45% of the total project value (depending on technology), with the desired target of 65% (Montmasson-Clair & das Nair, 2015).

The REIPPPP is lauded as one of the most successful government programmes in the past decade in terms of management and design, even as its track record of local procurement outcomes has been ambiguous (Montmasson-Clair and das Nair, 2015; Intellidex, 2021). The successes largely relate to stimulation of local and foreign investment into the country's energy sector. By the end of 2018, the REIPPPP had secured more than R209.4 billion in committed private sector investment of which approximately R49 billion was through foreign direct investment (Intellidex, 2021).

The programme was made a success by a number of factors including offtake agreements, project management and access to funding. Offtake was arguably the most important factor in attracting investments by the private sector. The potential project profitability was guaranteed by the purchase price agreements entered into with Eskom, which stimulated the initial interest in the programme and attracted larger numbers of bidders (Montmasson-Clair and das Nair, 2015). In addition, the 20 year contracts entered into provide for security and sufficient time to recoup invested funds and earn profits. With respect to project management, the Department of Energy had a dedicated project unit (the IPP Office) established which made the facilitation of the programme more effective compared to if it was managed through general government operational policies and procedures (Intellidex, 2021). Regarding funding, the private sector had committed about R209 billion by the end of 2018, alleviating pressures on constrained fiscal resources (Intellidex, 2021). However, as highlighted previously, the significant uptake by the private sector was underpinned by lucrative offtake agreements that provided certainty on price and project length.

Nevertheless, the local industrial capacity development envisioned as part of the programme remains constrained by two key factors. Firstly, the small existing manufacturing base is small, and the megawatt capacity allocated per technology is inadequate to create sufficient aggregate demand for international companies to set up manufacturing sites in the country. While the initial allocations of 6 725 MW appear substantial, the overall capacity is spread across several technologies as well as numerous competing developers and suppliers, thus failing to create enough aggregate demand to encourage large investments in local manufacturing. Secondly, the definition of local content includes a range of components not necessarily related to actual manufacturing. For instance, all domestic expenditure qualifies as 'local', including civil works, engineering, project management, assembly of imported parts (Montmasson-Clair & das Nair, 2015).

Pharmaceuticals

Interventions in the pharmaceuticals industry aimed at establishing local industrial capacity for production of vaccines and active pharmaceutical ingredients (APIs), through extension of support to two companies – BioVac and Ketlaphela (CDE, 2021). Biovac is a bio-pharmaceutical company based in Cape Town that is the result of a partnership formed with the South African government in 2003 to establish local vaccine manufacturing capability for the provision of vaccines for national health management and security.[28] It was created as a public-private partnership (PPP) between the National Department of Health (NDoH) and a private Consortium to prevent the loss of vaccine manufacturing capacity in the country following the closure of the State Vaccine Institute (SVI) in 2001 (Walwyn and Nkolele, 2018). BioVac's mandate was to re-establish vaccine manufacturing capacity and ensure supply of uninterrupted EPI Vaccines (BioVac, 2020).

As a result, Biovac has upgraded from packaging and labelling capabilities and developed capabilities to fill and finish vaccines locally through a technology transfer agreement with Sanofi for the fill and finish of Hexaxim (Tomlinson, 2021). Hexaxim is a six-in-one childhood vaccine developed by Sanofi, and Biovac is currently the only company in the world that Sanofi has undertaken a technology transfer arrangement for Hexaxim manufacturing (Tomlinson, 2021). Moreover, Biovac has developed local capacity to formulate Prevenar-13[29] through a technology transfer arrangement with Pfizer (Tomlinson, 2021). Further, in 2021, it was announced that Biovac has been appointed to manufacture the Pfizer BioNTech COVID-19 vaccine for distribution within Africa, making it the first company on the continent to produce an mRNA-based vaccine, and with expected full production capacity of 100 million finished doses annually (Presidency, 2021). This demonstrates a successful intervention that has resulted in development of some local industrial capabilities.

The success of BioVac was anchored on an exclusive supply agreement with the NDoH for the procurement, storage, and distribution of vaccines used in government's Expanded Program on Immunisation (EPI) (Walwyn and Nkolele, 2018). The offtake agreement guaranteed prices that were between 10 and 20 per cent higher than international competitors, resulting in significant growth in output and employment (Walwyn and Nkolele, 2018). However, the exclusive supply agreement is no longer in place, but because BioVac managed to build capabilities over the years, it continues to supply the Department of Health (DoH) through competitive bidding processes. For instance, it has successfully

[28] BioVac website.
[29] A vaccine that prevents childhood pneumonia

secured 85% of the DoH's most recent R11.4-billion tender for the supply of childhood vaccines from June 2020 through December 2023 (Tomlinson, 2021).

The success of BioVac has however been limited in some respects, given that South Africa still does not have capacity to produce active pharmaceutical ingredients (APIs). BioVac has only managed to develop capabilities for formulation, filling and finishing, and not the actual manufacturing of active ingredients (Tomlinson, 2021). Although BioVac has some knowhow for APIs, it does not currently have the capacity to produce them commercially, as that would require substantial investments (in the billions of Rands), which are currently unjustified given the short-term nature of DoH tenders. The length of the DoH tenders is typically two to three years, which is insufficient to incentivise the level of investment needed to build local production capabilities (Tomlinson, 2021).

On the other hand, Ketlaphela was established by state owned Pelchem in 2011 in partnership with IDC to manufacture active pharmaceutical ingredients and final formulated medical products mainly for antiretroviral medication, as well as medication for other diseases such as tuberculosis and malaria (DST, 2013).[30] However Ketlaphela has not been in production ever since, with production expected to commence in 2027 (Ketlaphela, 2020). At the core of the delays has been challenges finding the right technical partner, following the initial withdrawal of the Lonzi – a Swish company – citing misalignment of strategies between the two entities (Makinana, 2021). The recent attempts to revive it involved partnering with present local manufacturers of ARVs for Ketlaphela to supply them with APIs. This will be underpinned by offtake agreement with DoH starting with supply of ARVs for a minimum of 10 years and average of 2 million packs per month at competitive pricing. The issue offtake from the DoH always been a critical component of the formation of Ketlaphela (Ketlaphela, 2013), however it has seemingly not been forthcoming, which has been the primary reason for the difficulties with securing a technical partner. As of November 2020, the offtake from DoH was yet to be in place (Ketlaphela, 2020).

Masterplans

In addition to the above discussed sectoral interventions, localisation initiatives have also been embedded in the recently launched sectoral masterplans. The logic underpinning the work on industry masterplans, spearheaded by the DTIC over the past five years in the main, is as follows: by promoting local procurement and production, whole value chains can develop, making possible (a) the replacement of some imports with local substitutes and (b) the entry of firms into export markets as they increase their capacity and competitiveness through greater economies of scale (CDE, 2021).

The basic structure of the plans involves reciprocal commitments from all industry stakeholders around investment, local procurement, incentives, protection from imports through tariffs and/or the combatting of illegal imports, commitments to protecting jobs, and transformation along the value chain (CDE, 2021). In particular, the masterplans have been developed for the following sectors including the automotive, poultry, steel, sugar, textiles, and plastics.

[30] Ketlaphela website.

Appendix B

Table 5: Local Content Thresholds

Product	LC Threshold	Designation Date
Rail Rolling Stock	65%	16-Jul-12
Power Pylons	100%	16-Jul-12
Bus bodies	80%	16-Jul-12
Canned/Processed vegetables	80%	16-Jul-12
Textile, Clothing, Leather and Footwear Sector	100%	16-Jul-12
Solar Water Heaters	70%	19-Jul-12
Set-Top Boxes	30%	26-Jul-12
Certain Pharmaceutical Products	Per Tender	7-Nov-12
Furniture Products	85%	15-Nov-12
Electrical and Telecom Cables	90%	8-May-13
Valves Products and Actuators	70%	6-Feb-14
Working Vessels	60%	1-Aug-14
Residential Electricity and Water Meters	70%	1-Aug-14
Transformers and Shunt Reactors	90%	28-Sep-15
Two way Radio Terminals	60%	30-Jun-16
Solar PV Components	70%	30-Jun-16
Rail Signalling System	65%	30-Jun-16
Wheelie Bins	100%	18-Aug-16
Fire Fighting Vehicles	30%	21-Nov-16
Steel Products and Components for Construction	100%	13-Jan-17
Rail Perway (Track infracture)	90%	13-Nov-17
Pumps and Medium Voltage Motors	70%	12-Dec-17
Plastic Pipes and Fittings	100%	16-Aug-19
Air insulated MV Switchgear	50%	20-Dec-19
Bulk Material Handling	85%	20-Dec-19
Industrial Lead Acid Batteries	50%	20-Dec-19