Local Content Requirements: Economic Impacts on South Africa

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1 Summary

Governments often aim to promote economic growth by encouraging domestic sourcing. This can be achieved through public media campaigns to "Buy American" or active policies like tariffs. However, because of the negative repercussions that tariffs can create, governments are increasingly turning to a variety of policies collectively known as local content requirements (LCRs). LCRs may require producers to make their output goods using input goods made domestically, or mandate domestic sourcing. Although LCRs may seem like a costless way to promote domestic industry, local content requirements have similar negative impacts as overtly protectionist measures like tariffs do.

For example, South Africa has proposed an ambitious economic plan to recover from the COVID-19 pandemic. Among other goals, the plan aims to reduce non-petroleum imports by 20%. We analyze the impact of achieving the import reduction via several different policy methods. Macroeconomic simulations with the ENVISAGE model show that reducing imports would reduce South Africa's 2025 GDP by 1.2 to 1.3 percent, depending on the policy tool used, with LCRs dropping it by 1.3 percent. Moreover, LCRs target only intermediate goods as opposed to intermediate and final goods as tariffs do. This means they must reduce intermediate imports even more than tariffs do, to reach any given level of import reduction. As a result, LCRs have even worse impacts on national income than tariffs do, reducing it by 0.7 percent.

LCRs are implemented instead of tariffs because of their opaque nature, which makes them seem like a costless way to promote the domestic economy. However, the costs are real, and larger than those of tariffs.

2 Background

In October 2020, South African President Cyril Ramaphosa announced the Economic Reconstruction and Recovery plan.[1] One of the plan's many economic goals was to "reduce South Africa's non-oil import bill by 20% over the next five years."[2] South Africa's Department of Trade, Industry, and Competition (DITC) is implementing the plan through various sub-plans for specific industries. It is unclear exactly which policy instruments will be used, but local content requirements (LCRs) are playing a role. For example, retail and

[1] "On 15 October 2020, President Ramaphosa tabled before a joint-sitting of parliament, an Economic Reconstruction and Recovery Plan (the "Plan"), aimed at stimulating equitable and inclusive growth in South Africa in the wake of Covid-19 pandemic." See DITC, "Policy Statement on Localisation for Jobs and Industrial Growth 18 May 2021".

[2] "The Plan was the culmination of work between social partners at the National Economic Development and Labour Council ("Nedlac") over a number of months… Nedlac parties have agreed to work together to reduce South Africa's non-oil import bill by 20% over the next five years (the "Localisation Initiative")." See DITC, "Policy Statement on Localisation for Jobs and Industrial Growth 18 May 2021".

wholesale buyers of sugar are required to increase their domestic sourcing of their sugar purchases, from 80% to 95%.[3]

LCRs span a wide variety of different policies: firms may be required to source a certain share of their inputs in local sources, they may be required to locate production domestically, or to use only local infrastructure.[4] [5] These laws often, but not always, apply only to firms wishing to sell their products to the government. For example, if a firm wishes to sell fire trucks to the South Africa government, the firm is required to purchase at least 30% of auto parts from other South African firms.[6] South Africa already has many LCRs for government procurement, many of which require 100% of inputs to be locally sourced. But LCRs may also apply to the entire industry, regardless of who is being sold to, as in the sugar requirements discussed above.

All trade barriers impose inefficiencies, but LCRs have issues that make them especially problematic. They often impose barriers on imports of intermediate inputs, but not final goods. LCRs also increase production costs for domestic producers, leading to lower exports and increased imports in non-protected sectors.[7] As a result, LCRs can reduce local production, when downstream impacts are considered. Furthermore, LCRs impose requirements on final goods produced domestically, they do not constrain the import of final goods. As a result, they incentivize consumers to just import goods, instead of producing them domestically. Kaziboni and Stern (2021) discuss the example of the South African firefighting vehicle industry and how no local assembler can meet the LCRs.

3 Methodology

We estimate the potential economic impact of the South African government's attempts to reduce imports. Our primary tool is the dynamic, global, computable general equilibrium (CGE) model ENVISAGE. The full details of the ENVISAGE model are presented in van der Mensbrugghe (2019).[8] The present analysis builds on an earlier study by Maliszewska (2020)[9], which adapted ENVISAGE to focus on Africa. Notably, we update the Social Account Matrix used for South Africa from 2002 to 2017.[10] We also follow the methodology for modeling content requirements in CGE models developed by Barbe (2017).

The South African government has an overall goal of reducing non-petroleum imports by 20 percent. We use the ENVISAGE model to estimate the impact of two methods of achieving this goal: tariffs or LCRs. To

[3] See Page 5 of DTIC's Competition Commissions' "Guidelines on collaboration in the implementation of the South African Value Chain Sugarcane Master Plan to 2030," https://www.compcom.co.za/wp-content/uploads/2021/07/Final-guidelines-on-collaboration-in-the-implementation-of-the-sugar-master-plan-9-July-2021.pdf.

[4] See Kaziboni and Stern (2021) for a review of South African LCRs. See Hufbauer et al (2013) for an overview of LCRs, more globally.

[5] Cimino-Isaacs and Zilinksy (2016).

[6] Kaziboni and Stern (2021).

[7] Stone, S., J. Messent and D. Flaig (2015-05-01), "Emerging Policy Issues: Localisation Barriers to Trade", OECD Trade Policy Papers, No. 180, OECD Publishing, Paris. http://dx.doi.org/10.1787/5js1m6v5qd5j-en

[8] van der Mensbrugghe, Dominique (2019) The Environmental Impact and Sustainability Applied General Equilibrium (Envisage) Model. Version 10.01, The Center for Global Trade Analysis, Purdue University.

[9] WB AfCFTA report: https://openknowledge.worldbank.org/handle/10986/34139

[10] See https://www.gtap.agecon.purdue.edu/databases/IO/table_display.asp?IO_ID=315

describe the impact of each of these scenarios, we compare them to a baseline where no policies are implemented.[11] In all cases, the policies are in effect only for the years 2022-2025 (inclusive).

In scenario 1, South Africa increases tariffs on imports of all non-fossil fuel commodities. In scenario 2, South Africa imposes local content requirements on all sectors of its economy, that mandates that they increase the share of their non-fossil fuel material inputs that come from domestic sources. This imposes a quantity constraint on the firm's demand function: increasing the shadow price of imports by each activity, as well as decreasing shadow price of the domestic inputs used by each activity (see Barbe 2017).

To create an "apples to apples" comparison, in both scenarios, the tariff rate increase or shadow price increase is chosen so that South Africa's non-fossil fuel imports in 2025 are 20% lower in the policy scenario than they would be in the baseline scenario.

4 Results

Table 1 shows the impact of each localization policy on key macroeconomic variables of the South Africa economy: GDP, income, exports, and imports. LCRs and tariffs have nonpositive impacts on all of them. Taken as a whole, these protectionist measures are not an effective means promoting the economy.

Table 1: Impacts of Reducing Imports, by Different Policy Methods, on Macroeconomic Variables (percent change)

	Tariffs	Localisation
Income	0.0	-0.7
GDP	-1.2	-1.3
Exports	-17.6	-16.8
Imports (all)	-16.4	-16.3
Imports (non-fossil fuel)	-20.0	-20.0

Source: Author's simulation results.

In the tariff scenario, GDP, exports, and imports fall. Tariffs on imports reduces imports directly. The increased cost of imports makes domestic production more expensive, which reduces it directly (GDP falls). The increased cost of domestic production reduces the competitiveness of exports, which reduces them as well. However, national income increases slightly. This is because the tax burden of the tariff is only partially born domestically, with another part of it borne by the foreign supplier. However, the entire revenue increase of the tariff is transferred to South Africa (lump sum to households in the model). It turns out that the efficiency costs that the tariffs impose on household income happen to be smaller than the foreign transfer to household income. As a result, the tariffs increase household income on net.

In the LCR scenario, the situation is much the same as for the tariffs. The LCR increases the cost of domestic production, which lowers GDP and exports for the same reason as in the tariff scenario (and by similar

[11] We use the same baseline as in the bank's AfCFTA report. It does not include a COVID shock. See Appendix G page 110 of the report: "The key macroeconomic drivers of the baseline rely on a number of existing baselines. Population growth is calibrated to the United Nations Population Division's 2015 projection, the medium variant. The baseline GDP is calibrated to Shared Socio-Economic Pathway 2 (SSP2)."

magnitude). The one exception is that since there is no direct increase in tax revenue, there is no income transfer. As a result, the effect of the policy on national income is negative.

At the sectoral level, both policies increase gross production of intermediate goods (light manufacturing), at the expense of industries that use them as inputs, such as fossil fuels or energy intensive manufacturing (see Table 2).

Table 2: Impacts of Reducing Imports, by Different Policy Methods, on Sectoral Gross Output

Sector	Baseline Value	Absolute Change		Percent Change		Absolute Change / Baseline Grand Total Value of All Sectors (%)	
		Tariffs	Localisation	Tariffs	Localisation	Tariffs	Localisation
Agriculture	21,206	-355	-484	-2	-2	0.0	0.0
Fossil fuels	36,780	-3,351	-3,403	-9	-9	-0.3	-0.3
Minerals n.e.s.	18,718	-937	-796	-5	-4	-0.1	-0.1
Processed foods	60,683	43	-552	0	-1	0.0	0.0
Wood and paper products	24,925	430	455	2	2	0.0	0.0
Textiles and wearing apparel	27,903	1,444	1,374	5	5	0.1	0.1
Energy intensive manufacturing	74,851	-6,673	-7,047	-9	-9	-0.5	-0.6
Petroleum, coal products	33,922	721	936	2	3	0.1	0.1
Chemical, rubber, plastic products	66,675	2,621	4,989	4	7	0.2	0.4
Light Manufacturing	159,225	6,033	12,986	4	8	0.5	1.1
Construction	67,746	391	272	1	0	0.0	0.0
Trade services	122,019	1,887	3,045	2	2	0.2	0.2
Road and rail transport services	26,752	-373	-201	-1	-1	0.0	0.0
Water transport services	3,922	-86	-72	-2	-2	0.0	0.0
Air transports services	7,276	-101	163	-1	2	0.0	0.0
Communication services	51,203	305	54	1	0	0.0	0.0
Other financial services	15,591	109	-177	1	-1	0.0	0.0
Insurance, real estate services	49,979	402	-391	1	-1	0.0	0.0
Other business services	82,332	381	-41	0	0	0.0	0.0
Hospitality services	40,987	-530	-824	-1	-2	0.0	-0.1
Other services	228,632	-374	-1,545	0	-1	0.0	-0.1
Grand Total	1,221,327	1,986	8,740	0	1	0.2	0.7

5 Conclusions and Policy Implications

The above simulations provide 3 main conclusions:

1. When the impact on non-targeted sectors is considered, LCRs (like tariffs) reduce overall domestic production.
2. LCRs have even worse impacts on national income that tariffs do, as more of the distortion is on intermediate goods, rather than final goods.

3. LCRs are implemented instead of tariffs because of their opaque nature, which makes them seem like a costless way to promote the domestic economy. However, the costs are real, and larger than those of tariffs.