



NATIONAL ECONOMIC DEVELOPMENT AND LABOUR COUNCIL

An assessment of subsidies and support in developed and developing agricultural economies and their implications for South Africa

Research conducted by DNA Economics

on behalf of
The National Economic Development and Labour Council (NEDLAC)

Funded by
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the dti
Department:
Trade and Industry
REPUBLIC OF SOUTH AFRICA



Project overview

Objectives and methodology

Objectives

- The NEDLAC brief calls for three distinct deliverables
 - Providing an assessment of the type and level of agricultural subsidies provided by South Africa's major trading partners
 - Assessed using WTO notifications and OECD data on agricultural support
 - Assessing the impact of such subsidies on the South African agricultural value chain across different products
 - Assessed using a computable general equilibrium (CGE) model and global dataset
 - Providing policy recommendations highlighting how South Africa could respond to these subsidies and any negative impact that they have on South Africa

ToR highlighted a number of focus countries and commodities

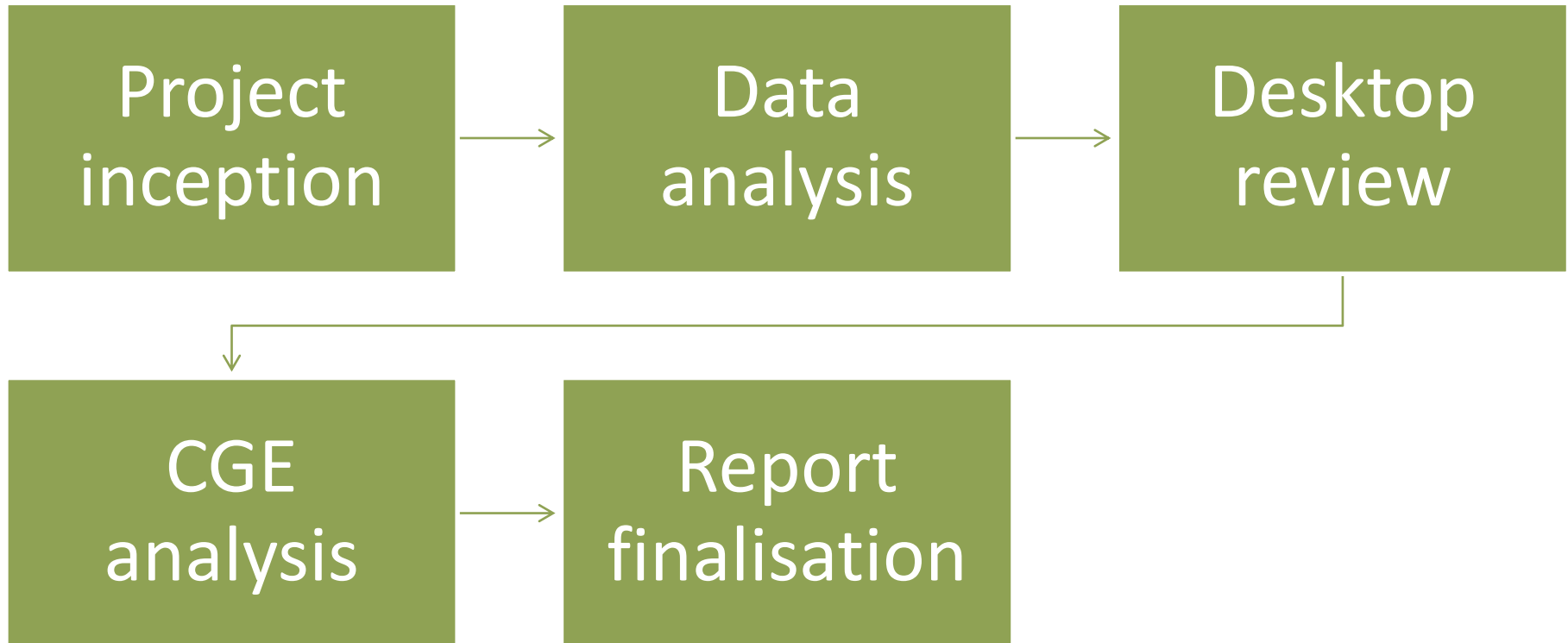
- Regional focus

- Brazil
- China
- India
- EU
- Switzerland
- USA

- Commodity focus

- Maize
- Soybeans
- Wheat
- Beef
- Poultry
- Dairy
- Sugar
- Cotton

Summary of project phases

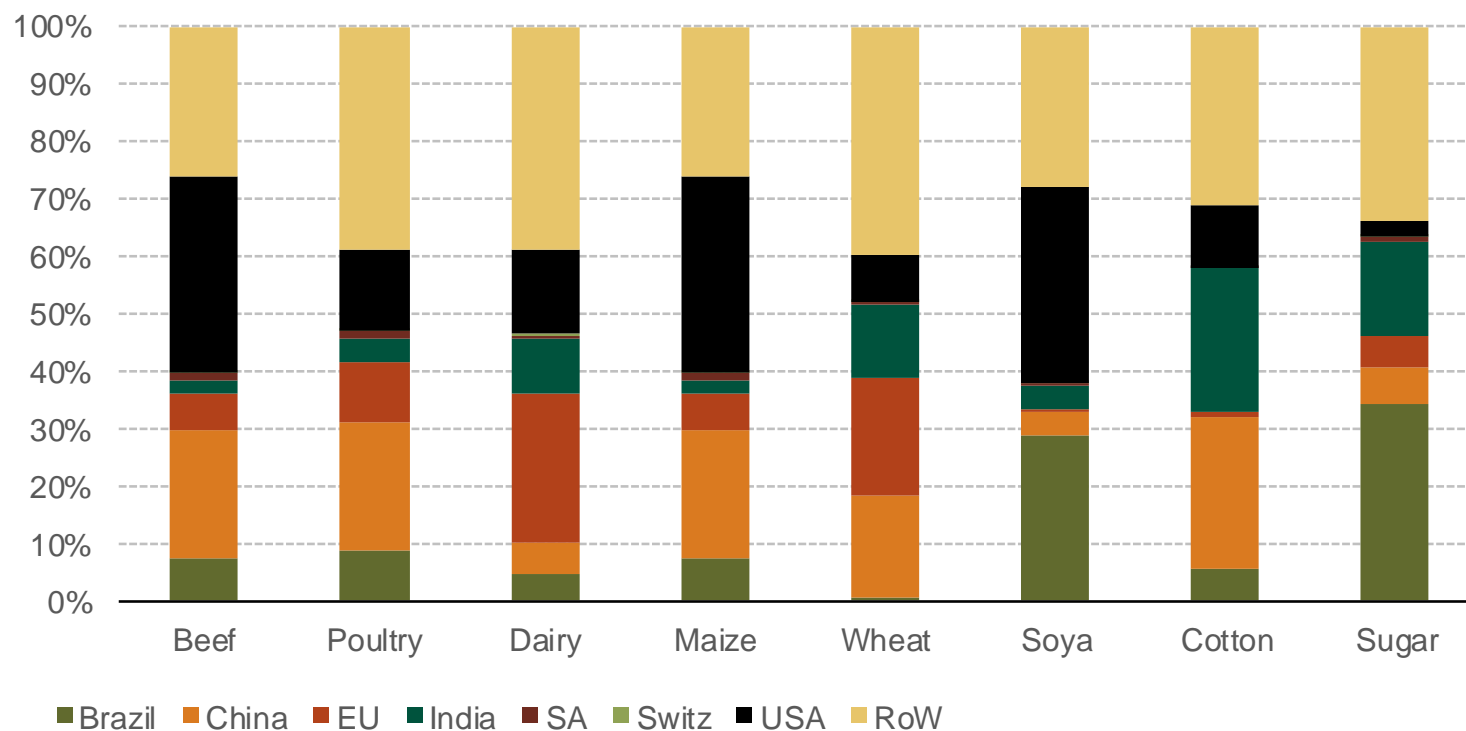


Production and trade of selected commodities

*SA's share in global production
and trade*

SA's share of production is less than 1%, overall, for the selected commodities

Share of production (volume) of selected commodities, average 2012 -2016

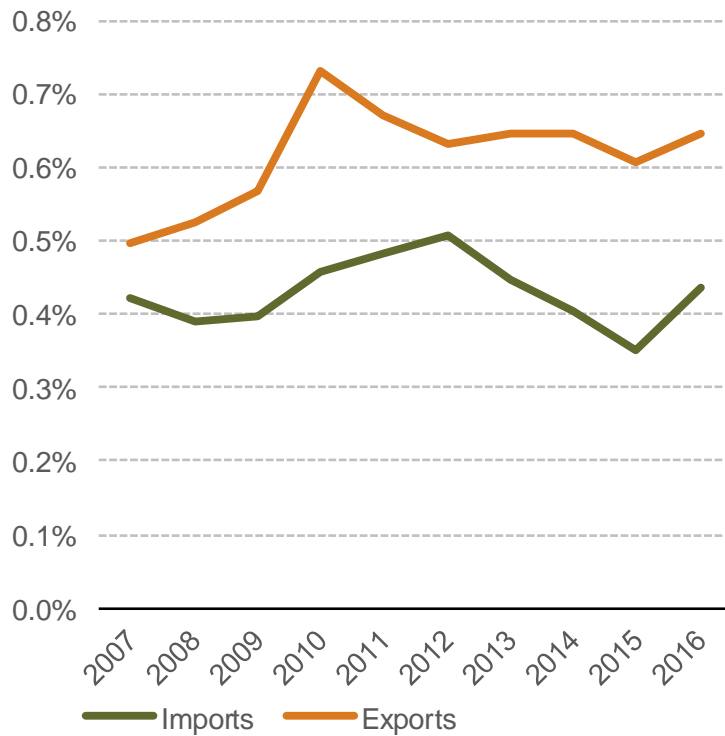


Source: DNA based on data from FAOSTAT.

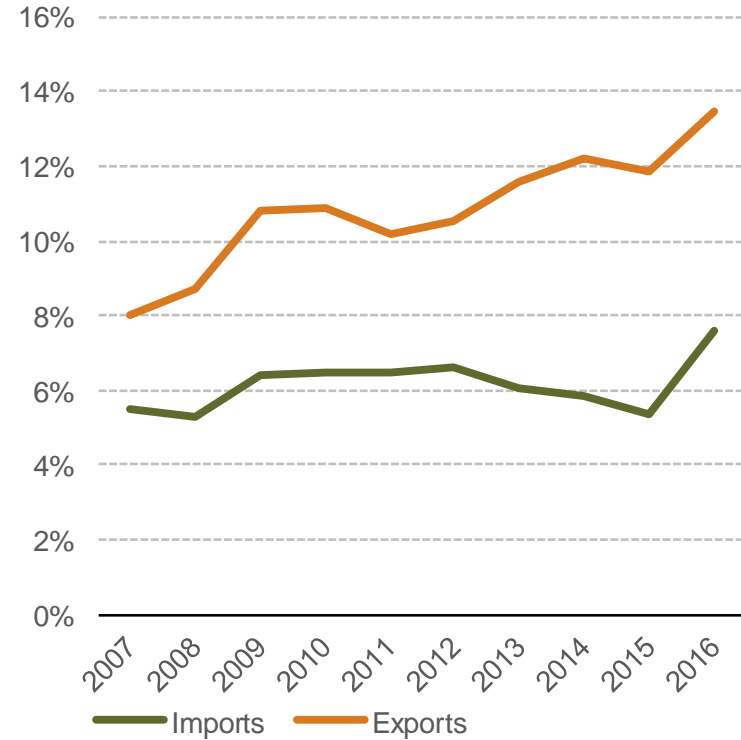
SA has a very small share of global agricultural trade, while agricultural makes up less than one-tenth of SA's own trade basket

South Africa's trade in agricultural products

Share of global trade in agricultural products



Agricultural products in South Africa's trade



Source: DNA based on data from WTO.

Brazil, China, EU, USA major global traders

Share of global exports and imports, selected commodities, average value 2012 – 2016

Exports	Beef	Poultry	Dairy	Maize	Wheat	Soya	Cotton	Sugar
Brazil	14.8%	25.8%	0.5%	14.8%	0.7%	38.4%	9.3%	63.0%
China	0.1%	2.3%	0.2%	0.1%	0.0%	0.3%	0.2%	0.0%
EU	17.7%	38.4%	53.7%	17.7%	32.7%	1.9%	4.3%	3.0%
India	2.0%	0.2%	0.5%	2.0%	1.1%	0.2%	17.6%	1.1%
SA	1.4%	0.4%	0.4%	1.4%	0.2%	0.0%	0.1%	1.0%
Swiz	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
USA	29.4%	16.0%	5.4%	29.4%	17.1%	41.1%	31.5%	0.1%
RoW	34.5%	16.9%	39.2%	34.5%	48.3%	18.1%	37.1%	31.6%
Imports	Beef	Poultry	Dairy	Maize	Wheat	Soya	Cotton	Sugar
Brazil	0.6%	0.1%	0.9%	0.6%	4.1%	0.3%	0.2%	0.0%
China	2.7%	4.0%	8.7%	2.7%	2.7%	61.7%	32.2%	11.4%
EU	21.3%	33.5%	38.4%	21.3%	21.4%	12.8%	2.6%	15.4%
India	0.1%	0.0%	0.0%	0.1%	0.3%	0.0%	3.4%	3.9%
SA	0.6%	1.4%	0.1%	0.6%	0.9%	0.1%	0.3%	0.5%
Switz	0.1%	0.8%	0.1%	0.1%	0.4%	0.0%	0.1%	0.1%
USA	2.3%	0.9%	0.3%	2.3%	2.0%	1.1%	0.3%	8.0%
RoW	72.3%	59.3%	51.3%	72.3%	68.3%	24.1%	60.9%	60.6%

Source: DNA based on data from ITC Trademap

The framework for agricultural support under the WTO

The Agreement on Agriculture

At multilateral level framework for agricultural support stems from WTO's Agreement on Agriculture (AoA)

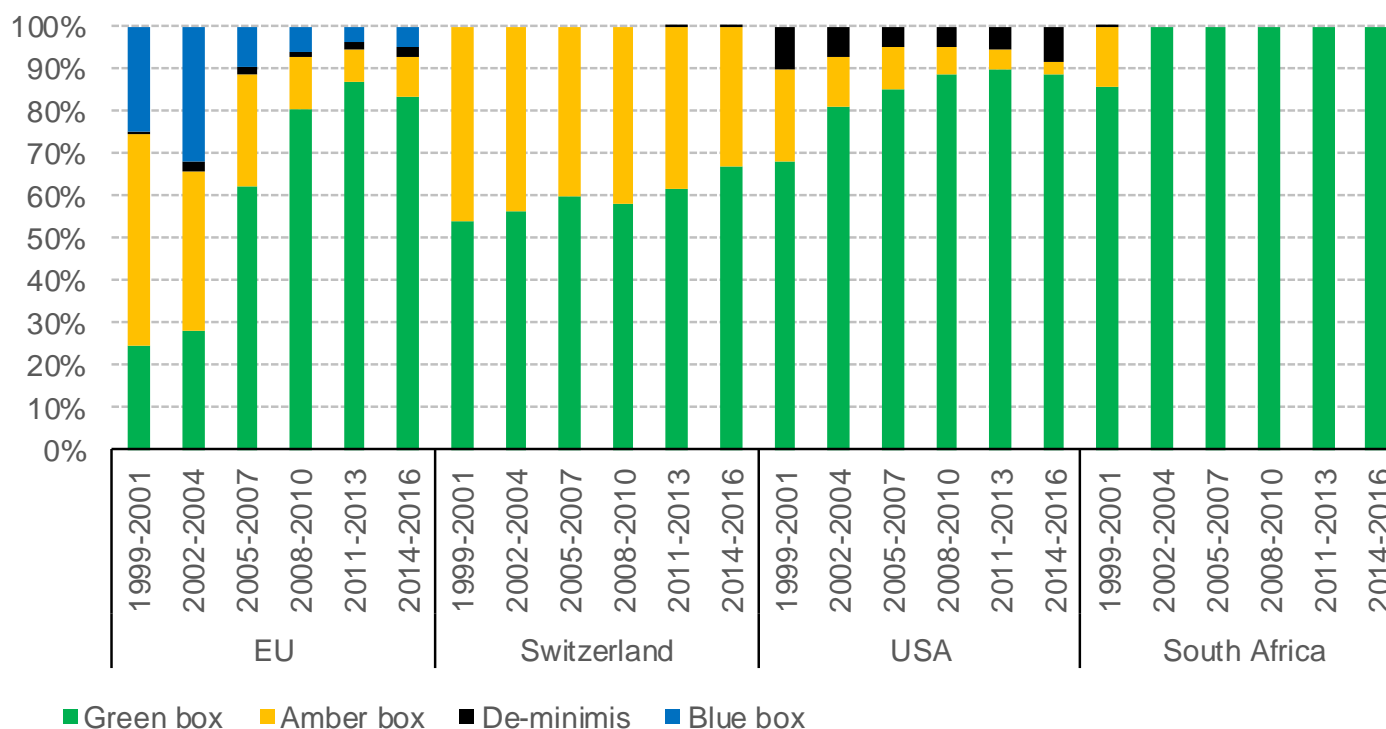
- Domestic support
 - Trade-distorting support (domestic policy measures that artificially raise or lower prices or stimulate production)
 - Non-trade distorting support (publicly-funded government programmes, including foregone revenue, that do not directly support prices or stimulate production)
- Export competition
 - Export subsidies, i.e. policy measures that directly link the level of support to exports of a product
- Market access
 - Instruments that restrict imports, such as import tariffs, quotas and special safeguards on agricultural products

Domestic support pillar and the ‘boxes’ of support

- Amber box
 - Domestic support measures that are considered to distort production and trade
 - Cap on support that WTO Members can provide under this box
 - Support consists of both **price support** (implicit support) and **direct payments** (explicit support)
 - Measured through an indicator called the Aggregate Measure of Support (AMS)
 - Additional “de minimis” support can be provided without it contributing to amber box limits
- Blue box
 - Support is linked to production but requires farmers to limit production to some extent
 - Only 7 countries (EU, US, Norway, Japan, Iceland, Slovenia and the Slovak Republic) have ever used the ‘blue box’
- Brown (development) box
 - Developing country exemption for three types of support measures
 - Investment subsidies, input subsidies and payments to diversify from drug production.
- Green box
 - Support measures must be government budget transfers that do not distort trade

Domestic support by selected developed countries and South Africa mainly through green box measures

Support across boxes (as % of total domestic support), developed countries and South Africa

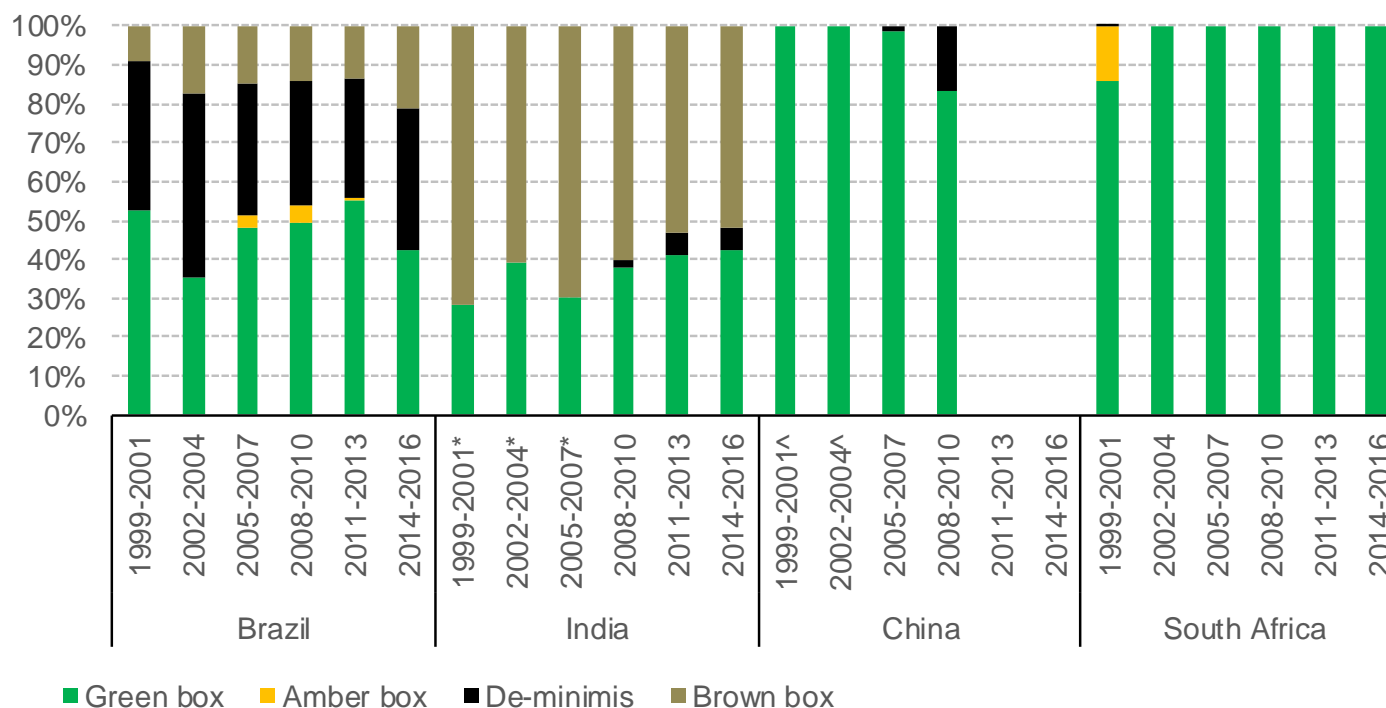


Source: Compiled from data in country notifications to WTO.

Reflects 3-year averages. For the EU and USA, the 2014 – 2016 period averages data for 2014 and 2015. For Switzerland and South Africa, the 2014 – 2016 period provides 2014 data only.

Domestic support by selected developing countries in the form of both de minimis, brown and green box measures

Support across boxes (% of total domestic support), developing countries



Source: Compiled from data in country notifications to WTO.

* For these years, India's level of de minimis support was estimated to be negative. For illustrative purposes this is not shown in the graph.

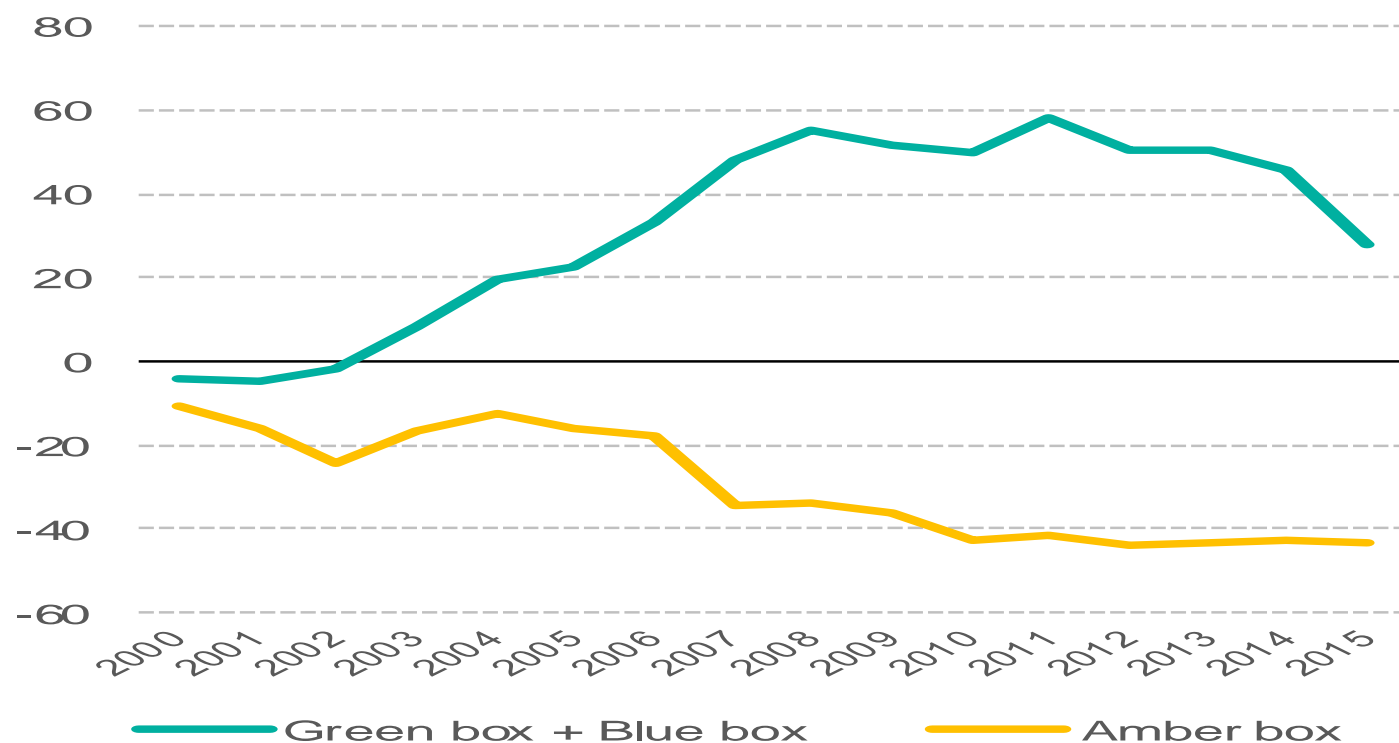
^ For these years, China's level of de minimis support was estimated to be negative. For illustrative purposes this is not shown in the graph.

Reflects 3-year averages. For South Africa, the 2014 – 2016 period provides 2014 data only. Data for China not available beyond 2010.

Extent of box shifting most clearly highlighted by the EU

- For the EU, cumulative change in spending on green box support has exceeded that of amber box between 2000 and 2015
- This trend less prevalent for USA and Switzerland

EU - cumulative annual change in support under the green, blue and amber boxes (US\$ Billion)



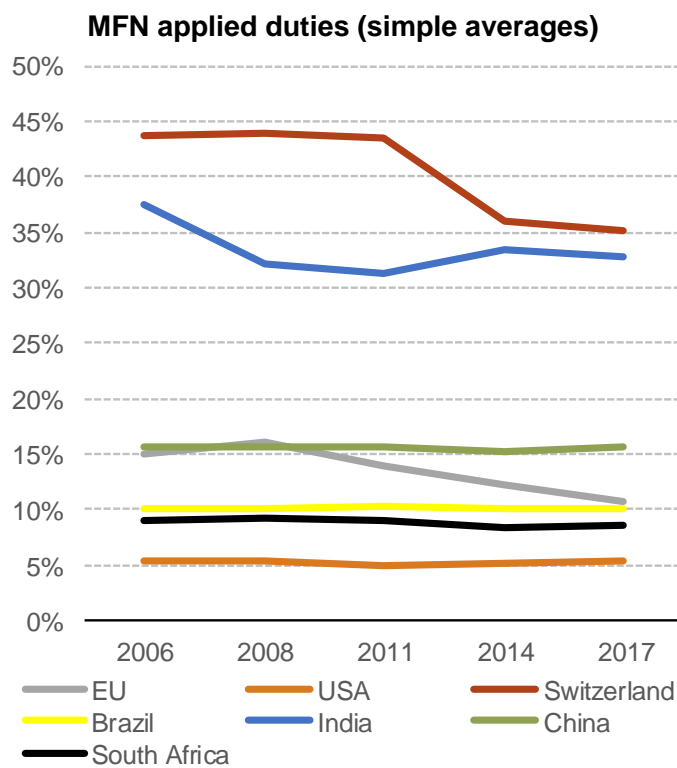
Export subsidies – limited existing use by selected trading partners

- WTO's Agreement on Subsidies and Countervailing Measures has prohibited export subsidies
 - However, AoA specifically allowed use of certain export subsidies on agricultural products,
 - Within limits specifically quantified, and listed in each Member's schedule of commitments
 - Subsequent to AoA WTO Members agreed to elimination of all export subsidies by end of 2018
 - 10th WTO Ministerial Conference (Kenya)
- Only India and Switzerland reported use of export subsidies in their most recent notifications to the WTO
 - India (2015 notification), subsidies on sugar and animal products
 - Switzerland (2017 notification), subsidies on cattle for breeding and horses

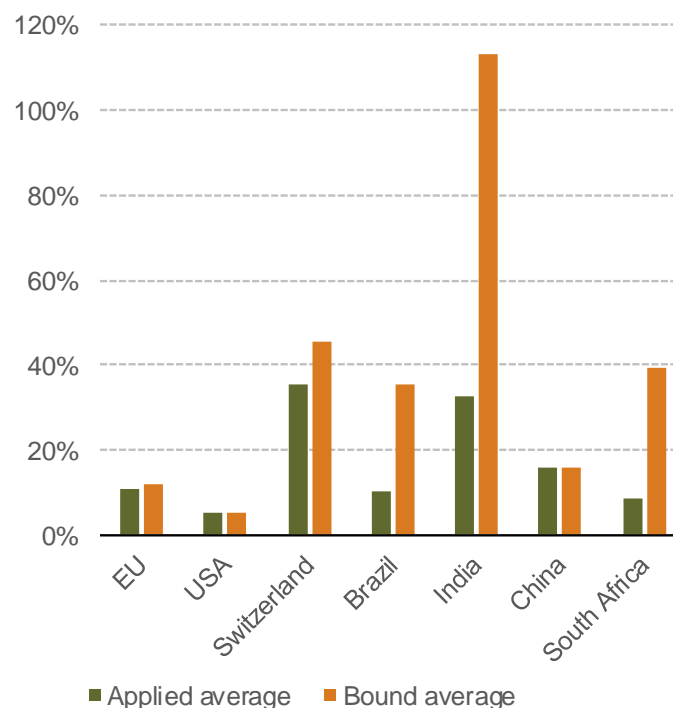
Market access – elimination of quantitative restrictions and setting bound rates for agricultural products

- SA has among lowest applied MFN import tariffs for agricultural products

Bound and applied agricultural duties



Bound vs. applied duties (simple average), 2017



Source: Compiled from WTO Tariff Profiles.

For India, 2006 reflects 2005 data and 2011 reflects 2010 data.

Estimates of agricultural support

*Using the OECD's data on
agricultural support*

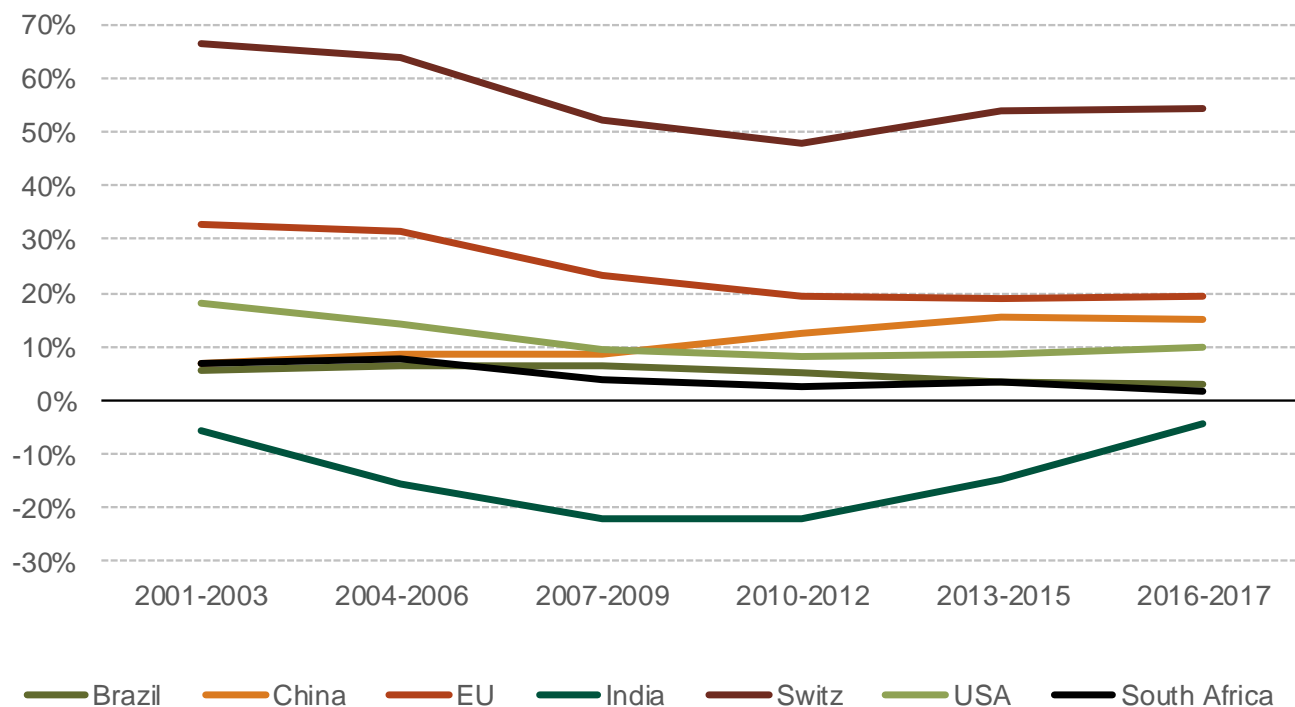
OECD measures of support provide estimates for different target areas

- Producer support
 - Support measures targeting agricultural producers
 - Direct payments from government to producers (domestic support)
 - Market price support measures (measures that create a gap between domestic and international prices)
- General support
 - Support measures that provide enabling environment for agriculture, and are not direct payments to producers
 - R&D, infrastructure, marketing etc.
- Subsidies to consumers
 - Subsidy transfers from government to consumers of agricultural products
 - Including e.g. food stamp programmes, subsidies for intermediate consumers

Producer support estimates (PSE) – relative support

- In relative terms, SA provides the lowest level of PSE support, with exception of India
- India's support estimated to be negative, due to price policies that suppress domestic prices below international level

PSE, % of gross farm receipts (GFR)

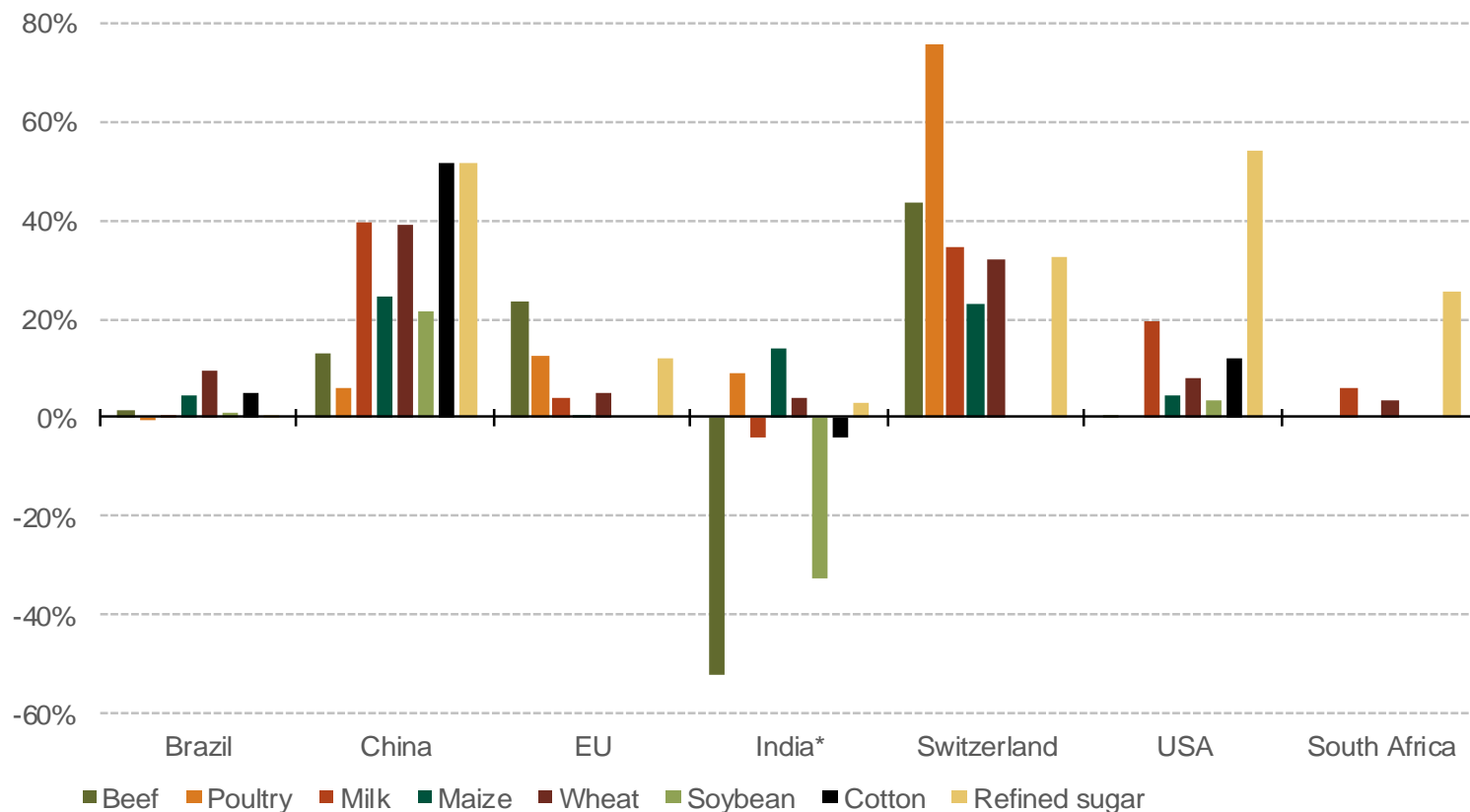


Source: Source: Compiled from "The PSE database"(2018)

Data for India for 2016-17 reflects only 2016 year..

Commodity support provided by SA is generally among the lowest for selected countries, exception being sugar

Producer Single Commodity Transfer as % of GFR, by country, average 2015 – 2017



Source: Source: Compiled from "The PSE database"(2018)

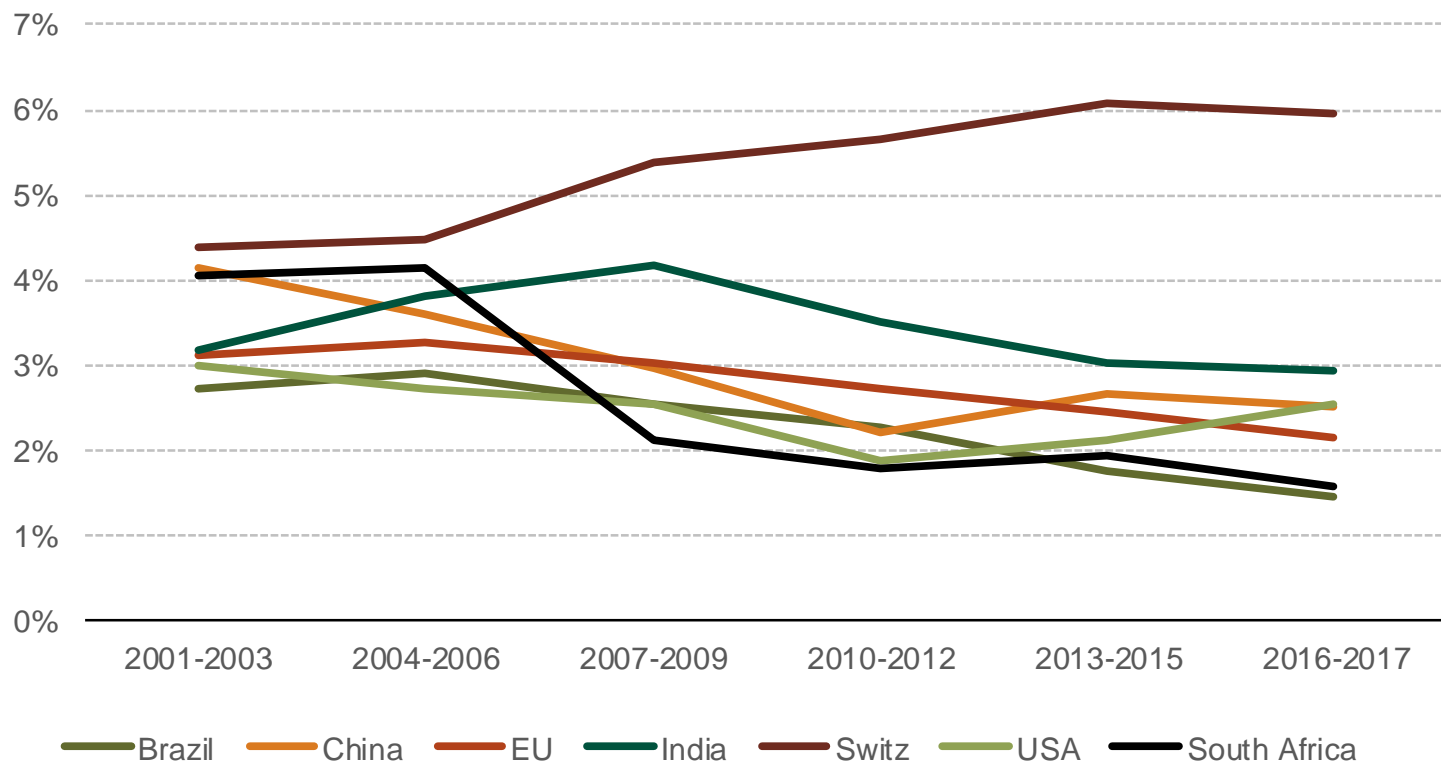
*Data for India reflects average for 2015-16.

Data not available for: Switzerland (soybeans and cotton), EU (cotton), South Africa (soybeans and cotton). For all other commodities, the absence of a bar graph reflects 0%.

General support to the agriculture sector

- SA provides among the lowest relative level of general support for the agricultural sector, on par with Brazil

General services support estimate, % of gross farm receipts (GFR)



Source: Source: Compiled from "The PSE database"(2018)

Data for India for 2016-17 reflects only 2016 year..

General support to the agriculture sector, by component

- Most of SA's general services spending concentrated in agricultural knowledge, generation and transfer; and infrastructure

Summary of GSSE by component, 2016 (% of GSSE)

	GSSEH	GSSEI	GSSEJ	GSSEK + GSSEL + GSSEM
Brazil	81.4%	1.5%	9.5%	7.6%
China	22.2%	5.2%	26.4%	46.2%
EU	56.9%	8.7%	17.9%	16.6%
India	8.7%	4.2%	75.4%	11.8%
Switzerland	50.1%	1.6%	11.6%	36.7%
USA	23.5%	13.5%	35.6%	27.4%
South Africa	40.8%	15.1%	35.8%	8.3%

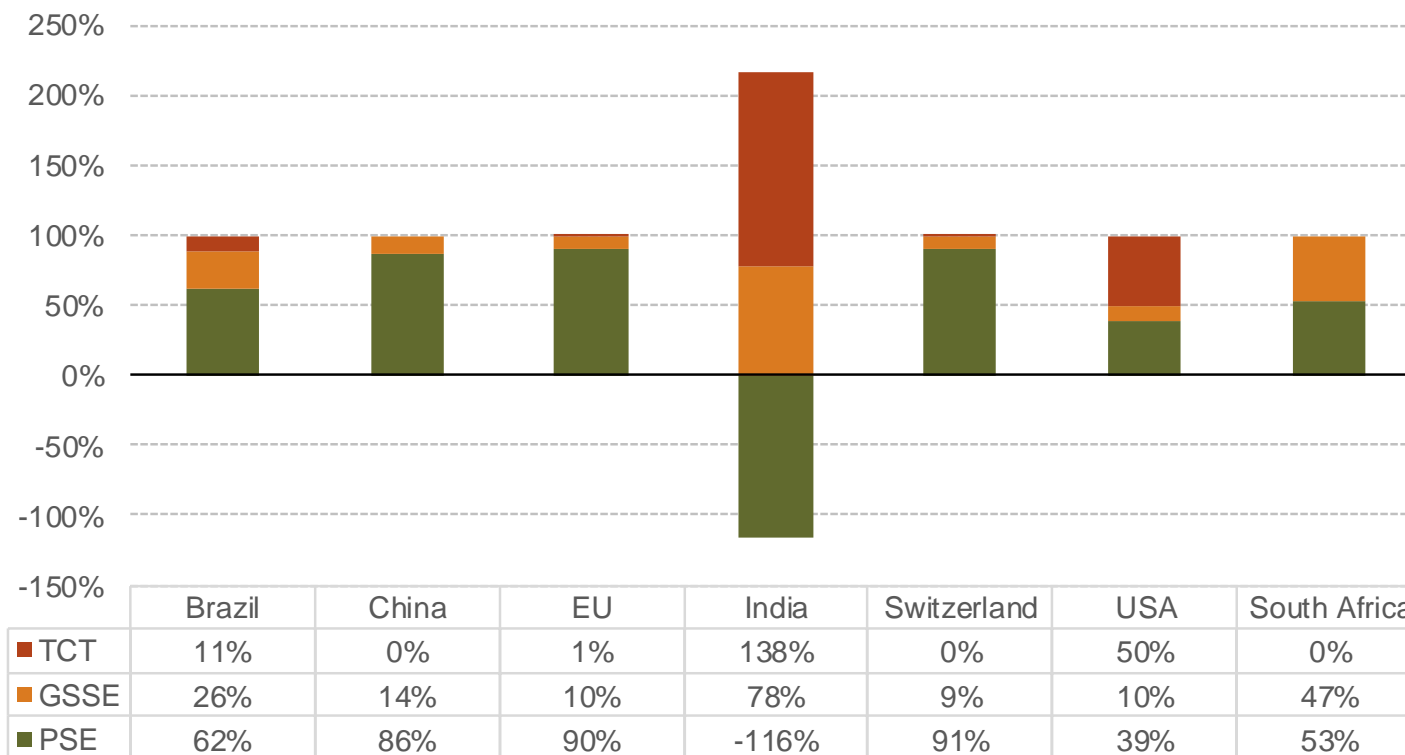
Source: "The PSE database"(2018), For India: OECD Report: India (2018), p. 203.

GSSEH = Agricultural knowledge and innovation system, GSSEI = Inspection and control, GSSEJ = Development and maintenance of infrastructure, GSSEK = Marketing and promotion, GSSEL = Cost of public stockholding, GSSEM = Miscellaneous, GSSE = General Services Support Estimates.

Total support for agriculture, including consumer support

- Significant share of total support in USA, Brazil and India is in the form of subsidies to consumers

Producer support, general support and consumer budget support in total support, 2016



Source: Compiled from "The PSE database"(2018)

Assessing the economy wide impact of subsidies

*Utilising a computable general
equilibrium (CGE) model*

GTAP database most complete compilation / linkage of economies across the globe

- Version 9 of GTAP database
 - 57 sectors / commodity groupings
 - 140 countries and aggregated regions
 - Five labour skill categories (based on ILO classification), Capital and Land
 - Latest available reference year is 2011
 - Model includes components of OECD PSE estimates
- Standard CGE model used
 - Assumed “sticky prices” for unskilled labour in SACU
 - Take into account high unemployment rates in these countries

Sectoral aggregation

1. Wheat
2. Cane and beet
3. Livestock and animal products
4. Raw milk
5. Other grains and seeds
6. Plant fibres
7. Other agricultural production
8. Forestry and fishing
9. Mining and extraction
10. Livestock and other meat
11. Vegetable oils
12. Dairy products
13. Sugar
14. Other food products
15. Beverages and tobacco
16. Textiles, leather and clothing
17. Other manufacturing
18. Utilities, trans., communication
19. Business and trade services
20. Govt and other services

Country and factor aggregation

- Country aggregation

- South Africa
- Rest of SACU
- EU
- USA
- India
- Brazil
- Switzerland
- China

- Factor aggregation

- Capital
- Land
- Skilled labour
- Agricultural, semi-skilled and unskilled labour

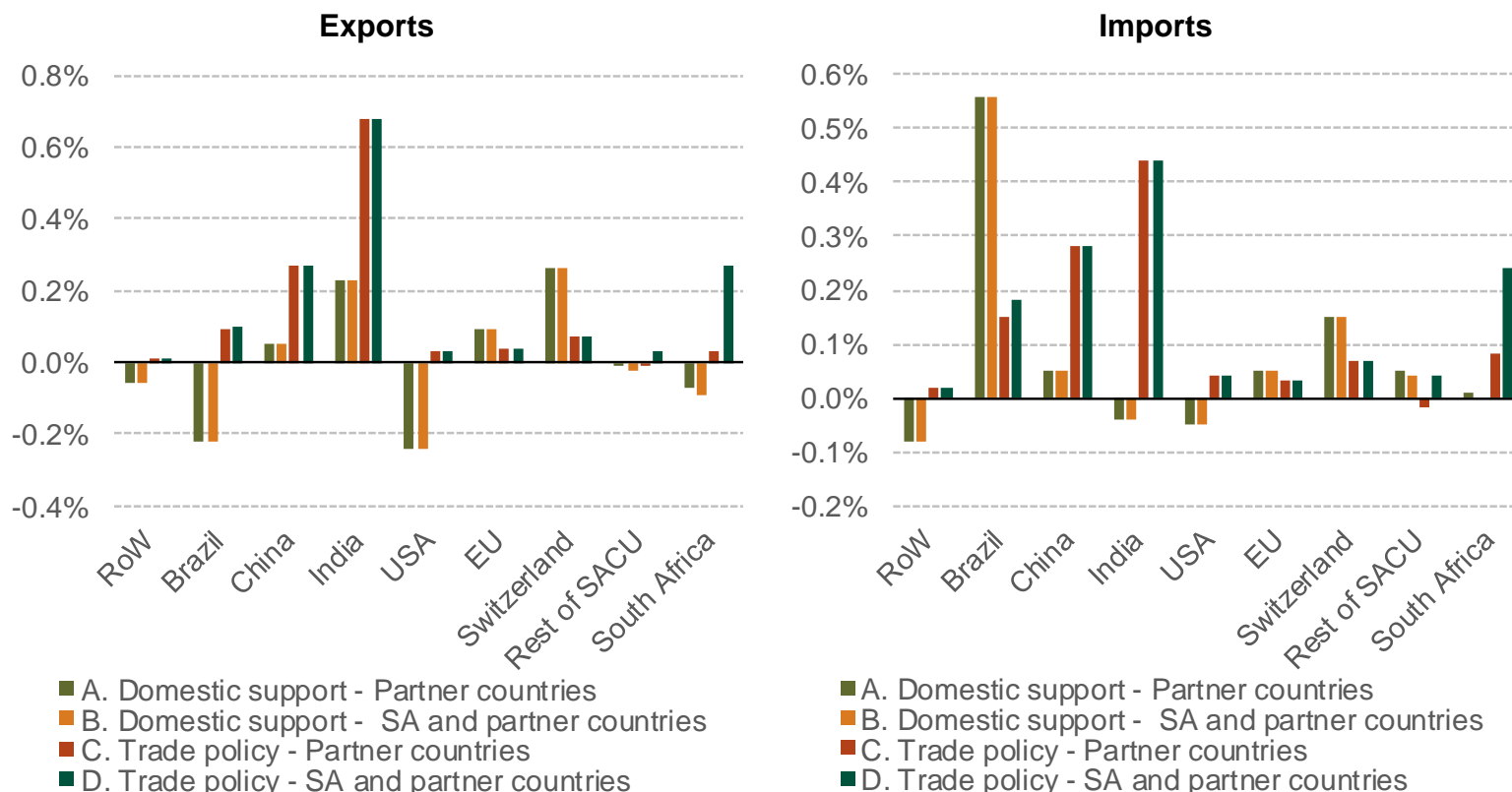
CGE modelling scenarios

Scenario	Simulation
A. OECD PSE budget transfers (Removing domestic support) – trading partners	<p>Agricultural support payments are removed for South Africa's selected trading partners only.</p> <p>That is, South Africa's trading partners remove all policies where budget transfers to agricultural producers take place.</p>
B. OECD PSE budget transfers (Removing domestic support) – SA and trading partners	<p>Agricultural support payments removed for South Africa and its trading partners.</p> <p>That is, both South Africa and its selected trading partners remove all policies where budget transfers to agricultural producers take place.</p>
C. Import tariffs and export subsidies (Removing trade policy instruments) – trading partners	<p>Import tariffs and export subsidies are removed for South Africa's selected trading partners, to illustrate the impact of market price support elements of agricultural support.</p> <p>That is, imports (from all regions) by South Africa's selected trading partners are made duty-free, while exports by South Africa's selected trading partners (to all regions) are free of export subsidies.</p>
D. Import tariffs and export subsidies (Removing trade policy instruments) – SA and trading partners	<p>Import tariffs and export subsidies removed for South Africa and its trading partners, to illustrate the impact of market price support elements of agricultural support.</p> <p>That is, imports (from all regions) by South Africa and its selected trading partners are made duty-free, while exports by South Africa and its selected trading partners (to all regions) are free of export subsidies.</p>

Main results – overall changes in trade volumes

- While volume changes in some sectors are significant within countries, overall change in trade volumes is small

Percentage change in volume of trade, CGE simulations



Source: Based on results of GTAP model simulations.

Main results – impact on SA's exports

SA change, volume, in exports	Removing domestic support		Removing trade policy	
	A. Partner countries	B. SA and partner countries	C. Partner countries	D. SA and partner countries
Other grains	8.60%	8.52%	-0.64%	0.40%
Wheat	22.77%	25.16%	-0.19%	1.51%
Other agriculture	13.76%	13.34%	7.80%	9.84%
Sugar cane	17.28%	18.25%	-1.73%	-0.39%
Plant fibres	20.76%	23.59%	0.60%	1.60%
Livestock	9.61%	7.91%	1.44%	2.60%
Milk	17.09%	12.51%	-5.71%	18.20%
Forestry and fishing	-0.35%	-0.35%	-0.07%	-0.05%
Mining	-0.13%	-0.13%	-0.01%	0.01%
Meat products	6.98%	5.01%	-1.31%	1.52%
Vegetable oils	5.44%	5.41%	-0.25%	0.89%
Dairy	6.28%	5.94%	-0.39%	1.30%
Other food products	2.17%	2.15%	-0.45%	0.26%
Sugar products	6.42%	6.51%	-0.14%	1.40%
Beverages and tobacco	0.64%	0.64%	-0.28%	0.86%
Textiles, leather, clothing	0.86%	0.82%	-0.86%	-0.47%
Other manufacturing	-0.96%	-0.95%	-0.23%	-0.05%

Main results – impact on SA's imports

SA change, volume, in imports	Removing domestic support		Removing trade policy	
	A. Partner countries	B. SA and partner countries	C. Partner countries	D. SA and partner countries
Other grains	-3.74%	-3.73%	0.44%	1.53%
Wheat	-2.96%	-3.37%	-0.08%	-0.19%
Other agriculture	-2.44%	-2.34%	0.70%	33.02%
Sugar cane	-3.49%	-3.82%	0.31%	-0.12%
Plant fibres	-1.24%	-1.72%	0.00%	1.50%
Livestock	-1.16%	-0.54%	0.47%	0.66%
Milk	-0.78%	1.02%	3.70%	2.25%
Forestry and fishing	0.36%	0.34%	0.00%	0.13%
Mining	-0.40%	-0.39%	-0.09%	0.01%
Meat products	-5.21%	-4.24%	0.56%	-1.00%
Vegetables oils	-1.53%	-1.54%	0.07%	-0.12%
Dairy	-5.33%	-5.18%	0.36%	-0.45%
Other food products	-1.42%	-1.44%	0.30%	0.03%
Sugar products	-2.21%	-2.24%	-0.05%	-0.33%
Beverages and tobacco	-0.57%	-0.58%	0.17%	-0.25%
Textiles, leather, clothing	-0.50%	-0.49%	0.46%	0.36%
Other manufacturing	0.31%	0.28%	0.07%	0.05%

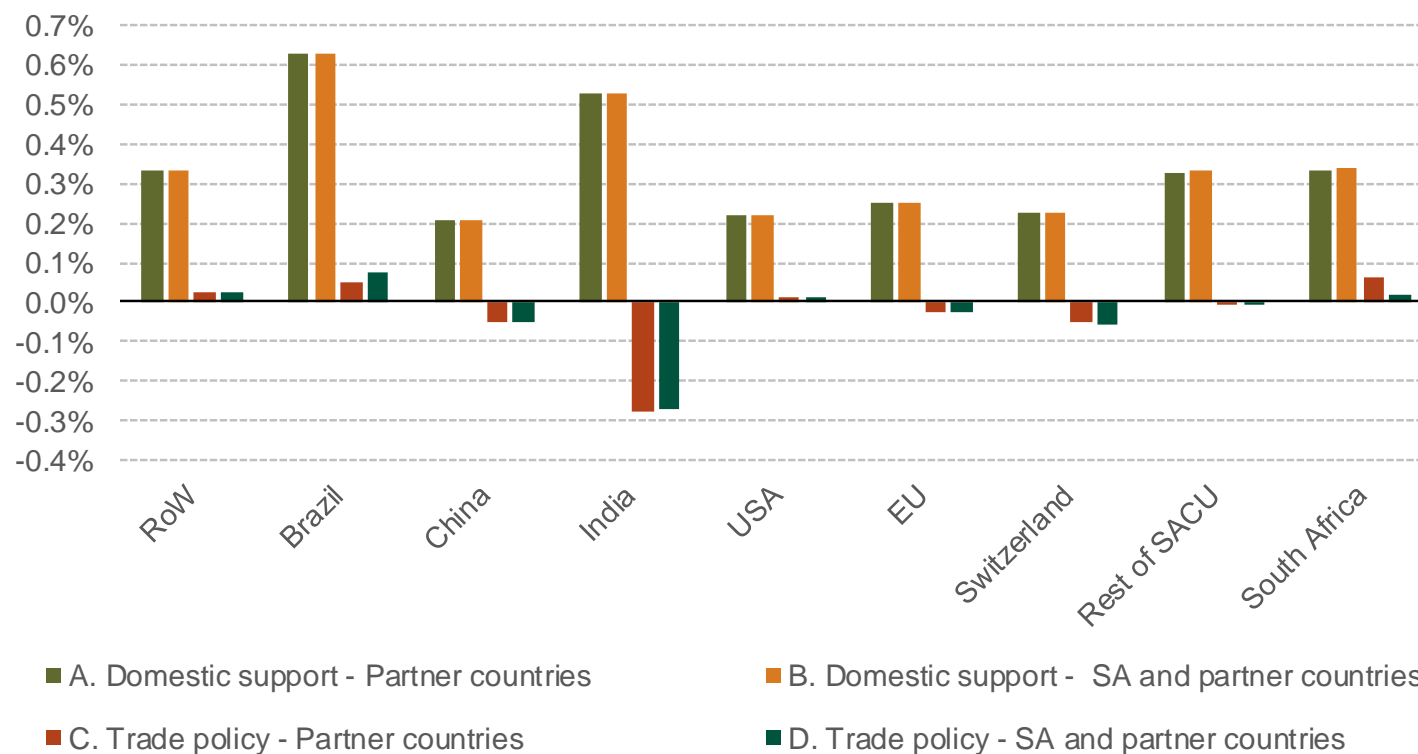
Main results – change in demand for unskilled labour

Change in demand for unskilled labour	Removing domestic support		Removing trade policy	
	A. Partner countries	B. SA and partner countries	C. Partner countries	D. SA and partner countries
Other grains	3.8%	4.1%	-0.1%	0.2%
Wheat	6.0%	7.0%	0.1%	0.6%
Other agriculture	7.3%	7.4%	3.7%	-0.1%
Sugar cane	0.8%	1.2%	0.2%	0.2%
Plant fibres	9.1%	11.0%	0.4%	-0.3%
Livestock	1.0%	1.1%	0.1%	0.3%
Milk	0.6%	0.9%	0.1%	0.2%
Forestry and fishing	-0.2%	-0.2%	-0.1%	0.1%
Mining	-0.2%	-0.2%	0.0%	0.0%
Meat products	0.3%	0.1%	-0.1%	0.4%
Vegetable oils	2.3%	2.3%	-0.1%	0.6%
Dairy	0.4%	0.3%	0.0%	0.3%
Other food products	0.3%	0.3%	-0.1%	0.2%
Sugar products	0.8%	0.8%	0.0%	0.5%
Beverages and tobacco	0.0%	0.0%	0.0%	0.4%
Textiles, leather, clothing	0.2%	0.2%	-0.2%	0.0%
Other manufacturing	-0.5%	-0.5%	-0.1%	0.1%
Total	-0.1%	-0.1%	0.0%	0.2%

Main results - overall change in GDP

- Net impact on GDP is small for all scenarios

Percentage change in GDP, CGE simulations

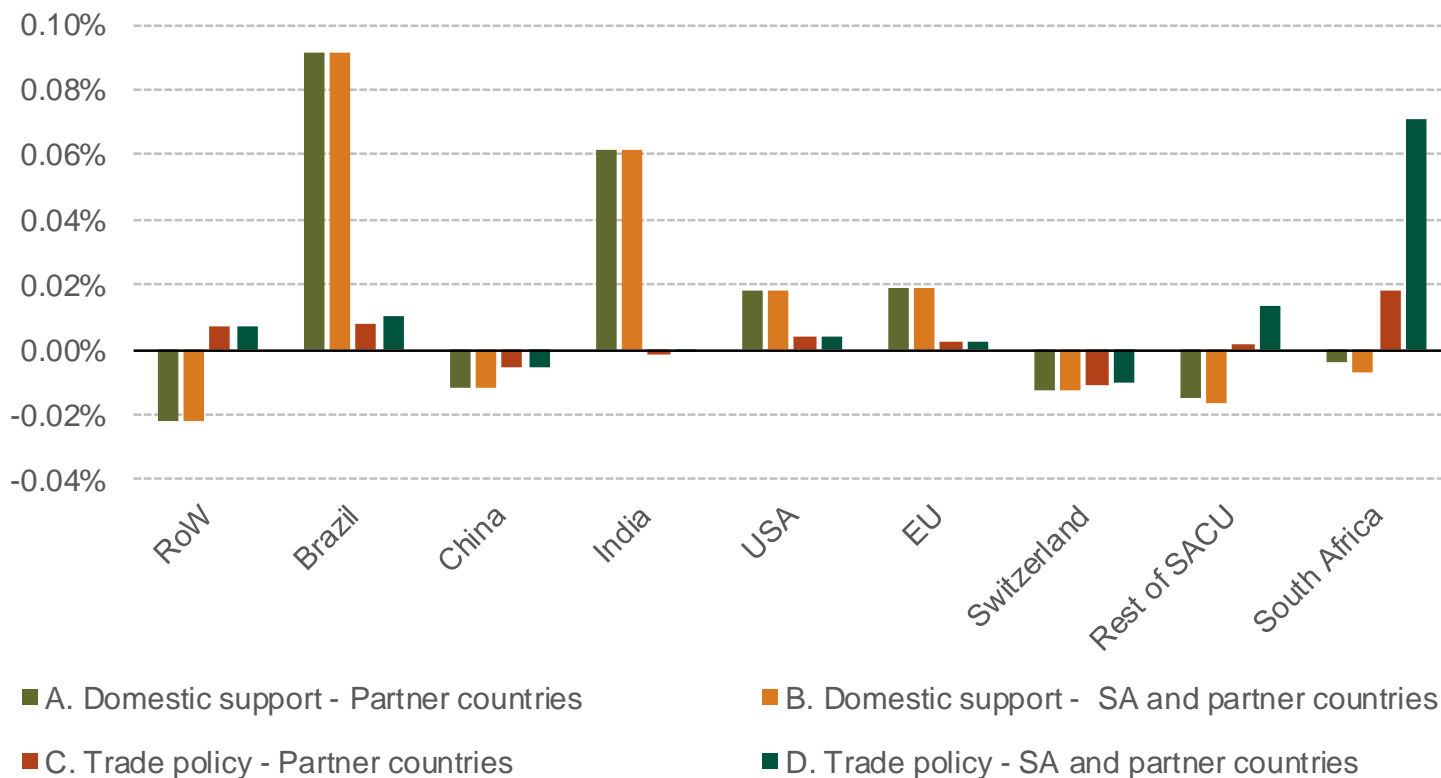


Source: Based on results of GTAP model simulations.

Main results - overall change in welfare

- Welfare impacts are even smaller

Welfare impact (% of GDP), CGE simulations



Source: Based on results of GTAP model simulations.

Policy recommendations

Key policy decisions

SA spends less, in relative or absolute terms, on support for the agriculture sector compared to partner countries

1. Fully evaluate current agricultural support expenditure in order to take stock of the effectiveness and efficiency of government budget transfers
2. Increase utilisation of instruments to reduce the risk of operating and investing in this sector
3. Focus on dismantling and overcoming measures that act as price support measures in foreign markets
4. South Africa still has significant policy room (from a WTO perspective) to increase import duties - However, the cost of such an approach needs to be carefully weighed against the policy intentions
5. A single, coherent and clear policy message should be conveyed by the South African government with regards to support for the use of countervailing measures



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