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)

Table of Contents

List of tables

List of figures

Acronyms

ACT	All Commodity Transfers
AGOA	African Growth and Opportunity Act
AMS	Aggregate Measure of Support
AoA	Agreement on Agriculture
AP	Agricultural Policy
ARC	Agriculture Risk Coverage
BT	Budgetary Transfer
CACP	Commission for Agricultural Costs and Prices
CAP	Common Agricultural Policy
CGE	Computable General Equilibrium
CRP	Conservation Reserve Program
CSE	Consumer Support Estimate
CO	Commodity Output
DAC	Department of Agriculture (India)
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agriculture Guarantee Fund
EFC	Excess Feed Cost
EFTA	European Free Trade Association
EPA	Economic Partnership Agreement
EU	European Union
FAO	Food and Agricultural Organization
GATT	General Agreement on Tariffs and Trade
GCT	Group Community Transfers
GDP	Gross Domestic Product
GFR	Gross Farm Receipts
GNI	Gross National Income
GSSE	General Services Support Estimate
GTAP	Global Trade Analysis Project
ISAC	Integrated Scheme for Agricultural Cooperation
ISAC&S	Integrated Scheme on Agriculture Census and Statistics
ISAM	Integrated Scheme for Agricultural Marketing

LV	Price Levies
MERCOSUR	Common Market of the South (Southern Common Market)
MFN	Most-favoured nation
MIDH	Mission for Integrated Development of Agriculture
MNAIS	Modified National Agriculture Insurance Scheme
MPS	Market Price Support
NEDLAC	National Economic Development and Labour Council
NFSM	National Food Security Mission
NMEAT	National Mission on Agricultural Extension and Technology
NMSA	National Mission for Sustainable Agriculture
NMOOP	National Mission on Oilseed and Oil Palm
OECD	Organisation for Economic Co-operation and Development
OTC	Other Transfers from Consumers
OTP	Other Transfers to Producers
PC	Payments based on current A/An/R/I
PHR	Payments based on non-current A/An/R/I
PI	Payments based on input use
PLC	Price Loss Coverage
PN	Payments based on non-commodity criteria
PO	Payments based on output
PSCT	Producer Single Commodity Transfer
PSS	Price Support Scheme
PSE	Producer Support Estimate
R&D	Research and Development
RF	Revenue Foregone
RKVY	Rashtriya Krishi Vikas Yojana
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAP	State Advisory Price
SCO	Supplemental Coverage Option
SCT	Single Commodity Transfers
TCT	Transfers to Consumers from Taxpayers

TPC	Transfers to Producers from Consumers
TPR	Trade Policy Review
TPT	Transfers to Producers from Taxpayers
TSE	Total Support Estimate
UNCTAD	United Nations Conference on Trade and Development
USA	United States of America
WTO	World Trade Organization

Executive Summary

The National Economic Development and Labour Council (NEDLAC) commissioned a study to identify and assess the impact of agricultural subsidies offered by South Africa's selected trading partners and competitors on its agriculture and agribusiness sectors. The countries of focus were European Union (EU), the United States of America (USA), Switzerland, Brazil, China and India; and products were: wheat, maize, soya beans, beef, poultry, dairy, sugar and cotton. The following sections summarise the key findings of the study.

Production and trade dynamics for selected commodities

The analysis of production and trade data for the selected commodities highlights a number of findings. First, South Africa is, in global terms, a minor producer of primary agricultural products, accounting, on average, for less than 1% of global production of the selected commodities. This is reflected in the figure below.

It therefore has a comparatively small share of global trade (both in terms of imports and exports) in primary agricultural goods. Primary agricultural commodities also make up a small share (less than one-tenth) of South Africa's trade basket.

Second, Brazil, the EU and USA are all major agricultural producers and exporters across many of the commodities of concern in the current study. These countries are also significant net exporters (i.e. exports significantly exceed imports) for these commodities.

Third, while China is a major global producer of many of the selected commodities, it has a small share of global exports, and is in fact a net importer for all of the selected commodities. This highlights that much of China's agricultural production is for internal consumption, rather than being export-driven.

Share of production (volume) of selected commodities, average 2012 -2016
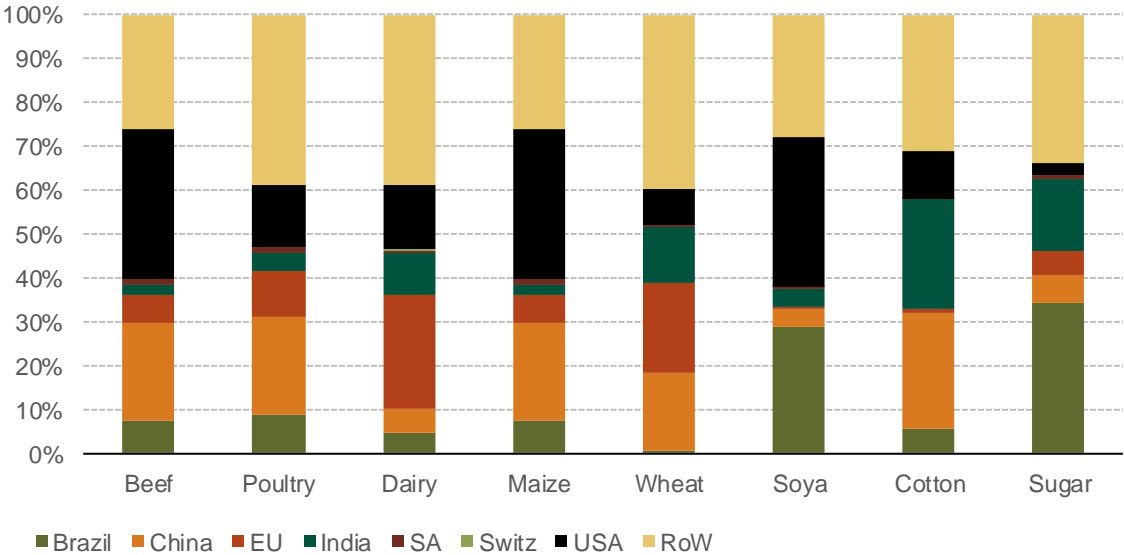
Source: DNA based on data from FAOSTAT.

Agricultural support under the WTO framework

At a multilateral level, the term and focus on agricultural support stems from the WTO's various negotiating rounds culminating in the Agreement on Agriculture (AoA). Within this context, support is defined to include both price support measures and government fiscal transfers to the agricultural sector and producers. Under the AoA, rules for agricultural support are defined under the so-called "three pillars". These three pillars can briefly be summed up as:

- Domestic support; under this pillar, the AoA distinguishes between trade-distorting support (domestic policy measures that artificially raise or lower prices or stimulate production) and non-trade distorting support (publicly-funded government programmes, inclusive of foregone revenue, which do not directly support prices or stimulate production).
- Export competition; this pillar focuses, inter alia, on export subsidies, i.e. policy measures that directly link the provision of support to exports of a product.
- Market access; broadly this pillar focuses on instruments that restrict imports, such as import tariffs, quotas and special safeguards on agricultural products.

Domestic support

In modern WTO parlance, domestic support to agricultural producers is identified with reference to a range of coloured 'boxes'. There are specific rules for each box category that determines *which* countries may use the boxes, *when* they may use them and to *what extent* the boxes may be used. These are summarised in the following table.

Categories of domestic support for agriculture under WTO AoA

Box (category of support)	Description
'Amber box' support **('Aggregate measure of support' (AMS))**	Domestic support measures that are considered to distort production and trade. When this box was designed, WTO Members had to quantify the level of this type of support they were providing, cap this amount and reduce it over time. Developing countries could make smaller reduction commitments over a longer period.
***'De minimis'* rule**	All countries are allowed to provide a minimal amount of trade distorting support without this support contributing to their amber box limits. There are no requirements imposed by the AoA to reduce such support.
'Blue box' support	The blue box basically represents a carve-out from the amber box. Any support that would normally be in the amber box is classified in the blue box if the support is linked to production, *but requires farmers to limit production to some extent.*
'Brown box' ('Development box') support	Essentially pure amber box support, but with a provision specifically for developing countries. The provision exempts three types of support measures from reduction commitments - investment subsidies, input subsidies and payments to diversify away from crop production related to illegal narcotics.
'Green box' support	Can be considered as being a 'free to support' box. In order to qualify as green box, support measures must be government budget transfers that do not distort trade, or must cause very minimal trade distortion.

The following figure provides a summary of the domestic support provided across the different boxes, for the selected developed countries and South Africa. For the developed countries, there is a clear trend toward an increased use of green box support relative to support measures available under other boxes. This is especially true for the EU, where the proportion of green box support has increased from 25% between 1999 and 2001, to more than 80% of total domestic support between 2014 and 2016.

Support across boxes (as % of total domestic support), developed countries and South Africa
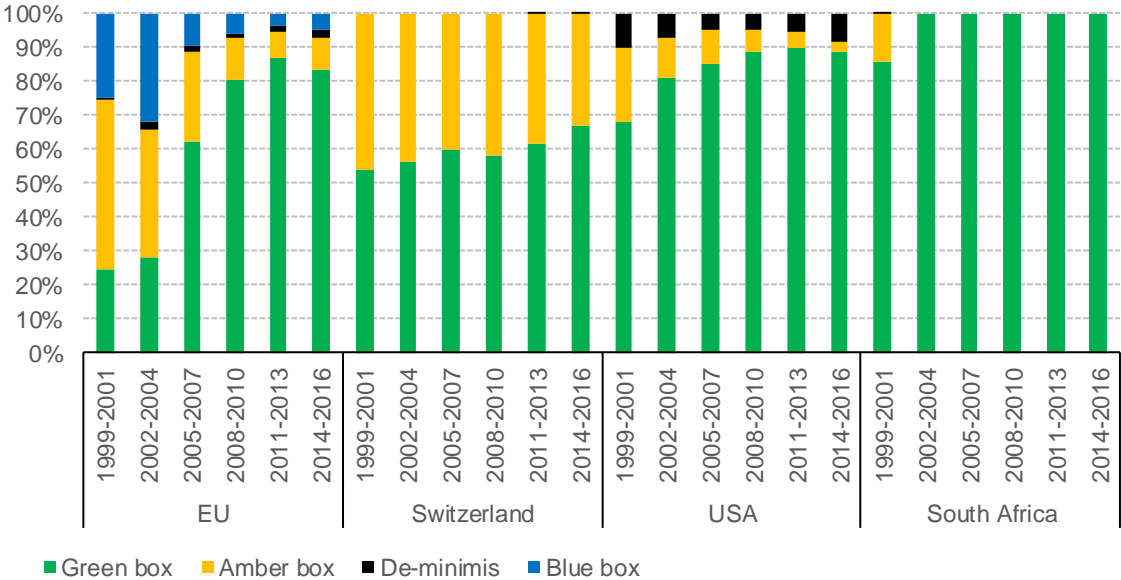
Source: Compiled from data in country notifications to WTO.
Reflects 3-year averages. For the EU and USA, the 2014 – 2016 period averages data for 2014 and 2015. For Switzerland and South Africa, the 2014 – 2016 period provides 2014 data only.

The increased use of green box support measures has sharpened focus on the concept of "box shifting", particularly by developed countries. Formally, box shifting happens when support is shifted from the amber box to the reduction-exempted blue or green box resulting in the overall level of support provided (comprising of the total of all the boxes) not being reduced. An analysis of WTO support notifications suggests that the EU has made extensive use of box shifting, while the USA and Switzerland have done so, albeit to a lesser degree.

Export subsidies

Export subsidies, within the context of the AoA, can be defined as support provided with respect to agricultural products, *contingent upon their export performance*. The WTO's Agreement on Subsidies and Countervailing Measures prohibits export subsidies. However, the AoA has specifically allowed the use of certain export subsidies on agricultural products, within limits specifically quantified, and listed in each Member's schedule of commitments. Subsequent to the AoA, WTO Members have agreed to the elimination of all forms of export subsidies by the end of 2018. This decision was part of the package of decisions adopted in Nairobi, Kenya during the 10th WTO Ministerial Conference[1].

---

[1] See WT/MIN(15)/45 – WT/L/980.

For South Africa's selected trading partners, the use of export subsidies (as self-reported) is limited. With the exception of India and Switzerland, all countries reported in their most recent notifications to the WTO that they did not make use of any export subsidies.

Market access

The market access pillar focuses on disciplining countries' use of measures to restrict import competition in the agricultural sector. In particular this pillar aims to achieve four outcomes. First, it requires that countries replace general quantitative restrictions on agricultural products (such as quotas and import bans) with tariffs, seen as the "tariffication" objective of this pillar.

Second, all countries were required to ensure that tariff bounds were in place for all agricultural products. These "bounds" effectively placed upper limits on the extent to which most-favoured nation (MFN) import tariffs could be raised.

Third, this pillar prohibited a number of non-tariff barriers from being used. In addition to quantitative import restrictions, this prohibition extends to variable import levies, minimum import prices, discretionary government issuance of import licences, voluntary export restraint agreements and non-tariff measures maintained through state trading enterprises.

Finally, Members were required to ensure import access opportunities for those products where restrictions had been "tarrified". That is, at least 5% of domestic consumption had to be opened for imports by 2000 for developed countries and 2004 for developing countries. This was largely achieved through the use of tariff quotas (also called tariff-rate quotas).

In terms of market access, India and Switzerland maintain significantly higher applied tariffs on agricultural products, when compared to the other countries included in the study. By comparison, South Africa's average applied tariffs are among the lowest for countries included in the study. Developing countries (including South Africa) also have significant policy space between their bound and applied rates.

OECD indicators of support

The OECD estimates of agricultural support distinguish between producer, general and consumer-related indicators. Producer support represents measures that target individual agricultural producers (or farmers) and may or may not be production-linked. OECD indicators of general support capture measures that target the agricultural sector (rather than specific producers or farmers), while consumer support indicators reflect measures that subsidise the consumption of agricultural products by downstream users and end-consumers.

Support to agricultural producers

The figure below provides a summary of the estimated support to agricultural producers, using the OECD's producer support estimate (PSE) indicator as a percentage of gross farm production (measured as gross farm receipts (GFR)).

PSE, % of GFR
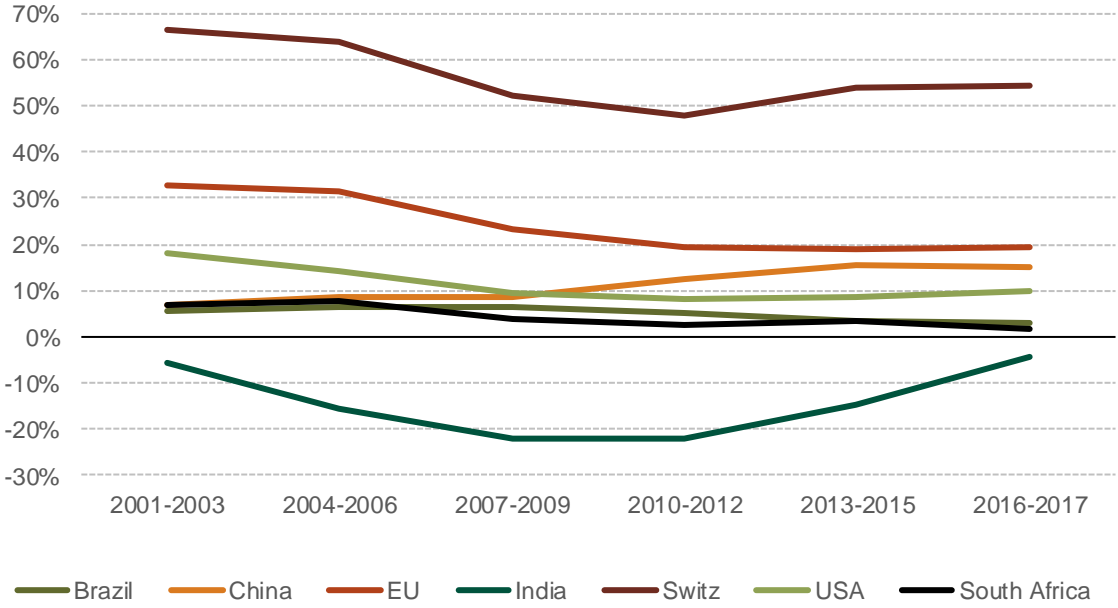
For the countries shown above, South Africa had the second lowest relative level of producer support (with support levels exceeding only India's producer support spend), and this was seen to decline over time. For the 2016-2017 period, South Africa's PSE (as a % of GFR) was under 2%. Switzerland, on the other hand, had the highest level of support, with PSE in excess of 50% of GFR in 2016-2017.

For all countries, relative levels of support have declined over time, with the exception of China. Rather than direct budget payments to producers, however, a large proportion of this producer support is estimated to be in the form of "market price support" (MPS). This refers to policies and instruments that create a gap between domestic prices and international reference prices. Examples of such measures include import tariffs, tariff rate quotas, licensing requirements, export subsidies and non-tariff barriers. In 2016, China had the highest share of MPS (72%) within its overall support measures targeting agricultural producers. South Africa's share of MPS as a percentage of PSE was just over 40% in 2016.

For India, the OECD estimates that negative MPS policies (i.e. policies that suppress domestic prices to a level lower than international prices) have been the primary factor contributing to India's overall negative support to producers. This is despite India's relatively high import duties on agricultural products.

Commodity-specific support

In assessing the level of support for commodities of interest in this study, the analysis has relied on the OECD's Producer Single Commodity Transfer (PSCT) indicator. This indicator represents the sum of direct budgetary transfers to producers (for specific commodities) and implicit transfers from consumers to producers (primarily through price support policies). The PSCT can be said to represent the minimum level of dedicated support for specific commodities.

Between 2015 and 2017, the eight commodities that are the focus of this study were also among those with the highest levels of support, with transfers to producers making up a significant proportion of overall farm revenues-this is shown in the figure overleaf. It is clear, from this figure, that there is strong commodity support within certain countries.

Switzerland, in particular, had the highest levels of support (among the countries of interest) for beef and poultry, and the second highest for milk, maize and wheat. China had the highest levels of support for milk, maize, wheat, soybeans and cotton, and the second highest for refined sugar. The USA had the highest level of support for refined sugar, and second highest for cotton. By contrast, the levels of commodity-specific support provided by South Africa and Brazil are, in general, far lower, when compared to other countries.

PSCT as % of GFR, by country, average 2015 – 2017
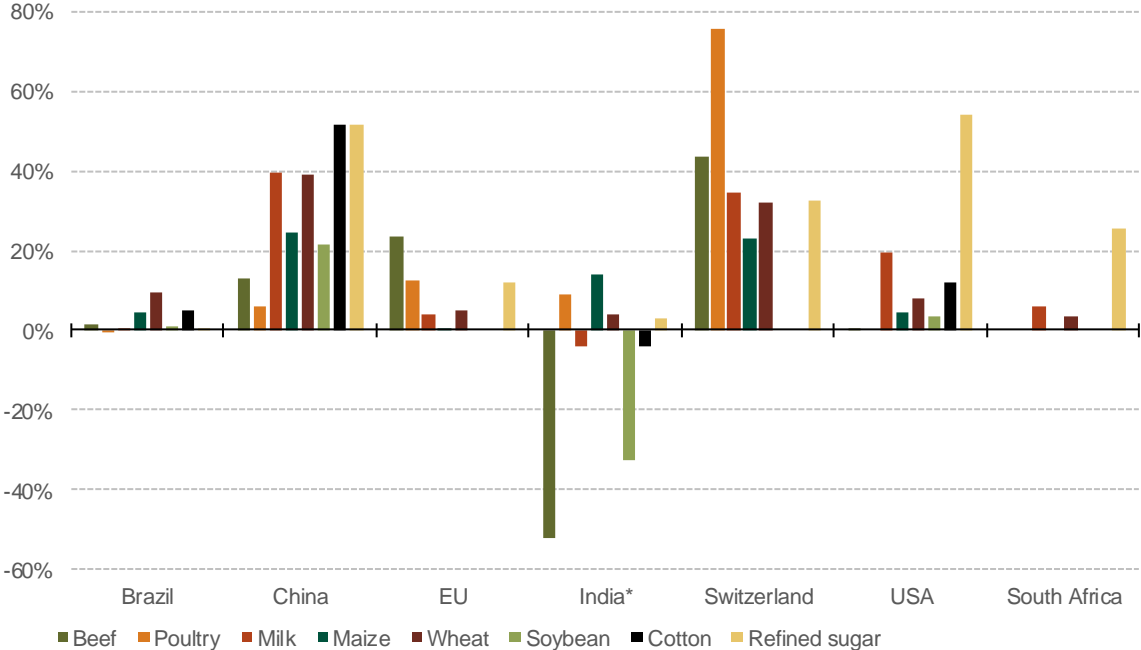
Source: Compiled from "The PSE database"(2018)
*Data for India reflects average for 2015-16.
Data not available for: Switzerland (soybeans and cotton), EU (cotton), South Africa (soybeans and cotton). For all other commodities, the absence of a bar graph reflects 0%.

For India, commodity specific support was relatively low, and was estimated to be negative for a number of products. As a proportion of GFR, commodity-specific support in India was highest for poultry, maize and sugar. By contrast, commodity specific support was negative for beef, milk, soybeans and cotton, due to price policies and measures that suppressed domestic Indian prices below international prices for these commodities.

Total support for the agriculture sector

The following table shows the total support for agriculture in South Africa and its selected trading partners as a percentage of GDP, broken down by different types of support. Most the selected trading partners, barring the USA and India, favoured policy measures that focused on transfers to individual farmers (i.e. PSE measures or producer support).

In the cases of India and the USA, a significant portion of the total support for agriculture is provided through subsidies to consumers (both intermediate and final) of agricultural products. Consumer support provided by South Africa, China, Switzerland and the EU during the same year was negligible (ranging between 0% and 1% of total support for agriculture).

Total support for agriculture, 2016 (% of GDP)

	Producer support	General support	Consumer subsidies	Total support
Brazil	0.30%	0.13%	0.05%	0.49%
China	2.07%	0.34%	0.00%	2.41%
EU	0.61%	0.06%	0.01%	0.68%
India	-0.82%	0.55%	0.97%	0.70%
Switzerland	1.09%	0.11%	0.00%	1.20%
USA	0.20%	0.05%	0.25%	0.50%
South Africa	0.11%	0.10%	0.00%	0.21%

Source: DNA based on OECD data.

Significant amounts of general support to the agriculture sector (rather than support specifically targeting agriculture producers, and including measures that create an enabling environment for agriculture such as broad infrastructure or research and development (R&D) support) is also provided by some countries. This includes India, where close to 0.6% of GDP was spent on general support for the agriculture sector in 2016. For South Africa, roughly half of its total support for agriculture was in the form of general support to the sector.

Economy-wide impact of agricultural support

In order to estimate the economy-wide impact of agricultural subsidy policies implemented by South Africa's selected trading partners, the study utilised the Global Trade Analysis Project (GTAP) database and the standard GTAP computable general equilibrium (CGE) model. The GTAP trade database is unique in that it is one of the most comprehensive databases reconciling global exports and imports with country-level production dynamics. In addition to trade flow data, the database contains information on protection, household consumption, government consumption, investment, input-output relationships, and domestic direct and indirect tax rates.

The CGE analysis suggests that domestic support (subsidy payments to agricultural producers) in South Africa's trading partners does have a negative impact on South Africa's own agricultural sector (in terms of output and exports). However, the analysis suggests that this distortive effect has a positive impact on South Africa's manufacturing sector. As a result of the trading partners' agricultural subsidies, there is less incentive for South African firms to allocate capital and skilled labour to the agricultural sector. As a result, there is a larger domestic supply of capital and skilled labour at a lower relative cost (price) available for other sectors (such as manufacturing) to utilise.

The CGE analysis also shows that the removal of trade policy measures (import tariffs and export subsidies) by its selected trading partners has both trade creation (where South African exports increase as a result of better market access) and trade diversion (where South African exports decrease because other markets can supply goods at a more competitive price) effects.

The CGE analysis, however, also suggests that some (agricultural and non-agricultural) sectors may benefit, where both South Africa and its trading partners remove their trade policy measures, particularly import tariffs. This is, in part, because South Africa's removal of import duties reduces the cost of intermediate inputs used by some of its sectors, making these sectors' exports more competitive.

Nevertheless, the CGE analysis suggests that domestic producer support and trade policy support measures implemented by South Africa's trading partners have a relatively small net impact on its overall economy. For example, the removal of domestic producer support (budget payments to agricultural producers) by South Africa's selected trading partners is estimated to result in South Africa's GDP increasing by just over 0.3%. Similarly, the removal of trade policy instruments (such as import tariffs and export subsidies) by South Africa's selected trading partners is seen to result in South Africa's GDP increasing by less than 0.1%.

Policy recommendations

The main observation from the study is that, of the countries assessed, South Africa ranks among the lowest in terms of budgetary support spending on agriculture. This suggests that South Africa could simply spend more on agricultural support in order to compete against the selected trading partners. The study also makes clear that, under the World Trade Organization (WTO) framework, South Africa still has significant policy space to support the agricultural sector. This implies that the global framework governing agricultural support is not constraining South Africa's ability to support its agricultural producers. At the same time, its selected trading partners have maintained support for their own agricultural sectors within the limits agreed to under the WTO.

Direct commodity support to producers by South Africa is comparatively low and concentrated on relatively few commodities. South Africa, instead, spends proportionately more on support aiming to provide an enabling environment for agricultural producers in general (such as on infrastructure and research and development). However, because South Africa's overall support for the agricultural sector is comparatively low, relative levels of spending in the afore-mentioned areas is also lower than its main trading partners.

Given the above, five broad policy recommendations emanate from the report:

1. South Africa's current spending on agricultural support must be fully evaluated in order to take stock of the type of support provided as well as to determine the effectiveness and efficiency of government budget transfers to stakeholders in the agricultural sector.
   a. This should include undertaking sectoral needs assessments of the different agricultural industries in order to determine whether these interventions are targeting the correct areas. Such an evaluation should not be limited to direct transfers to agricultural producers but should also include broader spending on agriculture-related infrastructure and services. This would provide more clarity

regarding how much funding is available to support the agriculture sector, where it is being spent currently, and how spending efficiency can be improved.

    b. Countries such as the USA and Brazil provide significant support for the agricultural sector through direct subsidies to intermediate and final consumers of agricultural and food products. In comparison, South Africa provides much more limited consumer support. Further consideration could be given to explore whether such support has merit in the South African context and, if so, how the Government could expand such support.

2. Where the government is not able to directly increase budgetary support for the agricultural sector, other instruments could be utilised to reduce the risk of operating and investing in this sector. Some possibilities include, but are not limited to, the use of insurance and guarantee schemes for agricultural production, and increased targeting of concessional funding by South Africa's development finance institutions (DFIs).

3. It is apparent that many of South Africa's trading partners continue to support their agricultural sectors through "market price support" (MPS) measures rather than through direct government budget transfers. Such support is primarily in the form of import tariffs, non-tariff barriers and domestically administered prices.

    a. Increasing market access for its agricultural sector should continue to form a cornerstone of any future trade negotiations engaged in by South Africa.

    b. Related to this, South African institutional capacity to comply with the plant and animal health regulations, and broader agricultural certification and standards requirements of its trading partners should be developed and strengthened. Ensuring that private sector stakeholders in the agricultural sector have effective and efficient access to institutions offering these services is crucial to enhancing market access in South Africa's trading partners.

4. Despite the fact that MPS instruments are also already used by South Africa, it still has significant policy room (from a WTO perspective) to increase import duties on partner exports. At the same time, however, South Africa has engaged in preferential trade agreements with some of the countries and regions in this study, including the EU (under the Economic Partnership Agreement) and Switzerland (through the Southern African Customs Union's agreement with the European Free Trade Association member states).

    a. Within the limitations set under the WTO, and in the various trade agreements that South Africa has in place, industry and government may wish to explore how tariff policy could be better utilised to strategically support the agricultural sector. Importantly, the cost of such an approach (for intermediate producers and final consumers, and in terms of the overall distortive effect) needs to be carefully weighed against policy intentions. Furthermore, such an approach may only serve those sectors that are primarily competing against importers, while reducing the competitiveness of South African exports in other (primary agriculture and downstream) sectors.

    b. In future negotiations, the South African Government could consider excluding agricultural products benefitting from coupled support (i.e. from support linked to production) from tariff (preferential) concessions under new or existing preferential trade agreements.

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 by the South African agricultural industry. While a countervailing application brought by industry role-players requires significant investment in terms of time and resources, the use of these measures should receive the necessary consideration by industry role-players that suffer injury due to imports of subsidised agricultural products.

1 Introduction

The establishment of the World Trade Organisation (WTO) in 1995 saw member countries making various commitments to scale back many of the trade distorting agricultural support programmes. Thus, many agricultural support programmes have evolved over the past 20 years in order to ensure WTO compliance. A general shift away from intervention buying, subsidies for specific crops and reductions in export subsidies has changed the global trading system.

Although a significant reduction in trade distorting subsidies is reported, an unlevelled playing field created by many of the remaining agricultural support programmes still continues to tip the balance against developing countries within the global trading system. Many of the agricultural support programmes continue to impose a limit on critical efforts of rural development in developing world's agriculture.

The evolving nature of agricultural support programmes creates a new and urgent need to understand the changing support mechanisms and assess their impact on South Africa's food and non-food agro markets. It is against this background that the National Economic Development and Labour Council (NEDLAC) with support from the Department of Trade and Industry commissioned a study to identify and assess the impact of agricultural subsidies in selected developed and developing countries on the South African agriculture and agribusiness sectors.

1.1 Study objectives and scope

The specific objectives of the study were to:

- Identify and assess the nature and extent of subsidies to agriculture employed by South Africa's trading partners and competitors,
- Determine the impact of these subsidies on the South African food and non-food agro-value chains, and
- Recommend appropriate policy responses to ensure South African producers compete on a level playing field with its trading partners and competitors.

The focus products and countries of study were wheat, maize, soya beans, beef, poultry, dairy, sugar and cotton; European Union (EU), the United States of America (USA), Switzerland, Brazil, China and India.

1.2 Methodology

The research commenced by undertaking a detailed production and trade analysis of South Africa's agricultural sector for the selected countries and products. Within this context, the trade analysis also served to identify key export markets for South African exports and to determine the source of South Africa's main competitor imports for those agricultural goods.

An analysis of data and information from the World Trade Organisation (WTO) and the Organisation for Economic Co-operation and Development (OECD) was undertaken in order to identify the nature and extent of subsidies to agriculture in South Africa and its selected trading partners. Specifically, the *nature* of subsidies is examined within the context of the WTO Agreement on Agriculture (AoA). Within this framework the extent of 'box shifting' is also

assessed. In terms of the *extent* of agricultural subsidies, the OECD's database on agricultural support is used as the basis for assessment.

To assess the economy-wide and sector-specific costs and benefits of agricultural subsidies in third party countries on South Africa, the study makes use of the Global Trade Analysis Project (GTAP) database and computable general equilibrium (CGE) model. Among the most widely used for multi-country, multi-sector analysis, this database and model is used to provide a sectoral and economy-wide assessment of the impact of agricultural support.

While not all products outlined in the terms of reference are available at a disaggregated level, the GTAP database nevertheless provides the best combination of sectoral and cross-country data to be utilised for this exercise. Given the aggregated nature of sectors in the CGE database that is used, the analysis provides an indirect assessment of the impact of subsidies on South Africa's food and non-food agro-value chains. The CGE model provides an assessment of the impact of agricultural support on competitiveness (in terms of exports and imports), output (production), relative prices and labour, as well as the overall impact on South Africa's economy.

1.3   Report outline

The report commences by defining the terms agricultural 'support' and 'subsidies' under the different frameworks used in the report. Following this, a brief review of trade and production patterns for the commodities of interest is undertaken. The report then provides an overview of support to agriculture under the World Trade Organisation (WTO) framework. A more detailed, quantitative analysis of commodity and country support is provided using the Organisation for Economic Co-operation and Development (OECD) framework for agricultural support. The results of the CGE modelling are then presented and, finally, options in terms of policy responses are provided.

2   Defining agricultural support

2.1   Support under the WTO framework

2.1.1   The Agreement on Agriculture

At a multilateral level, the term, and focus on, agricultural support stems from the WTO's various negotiating rounds culminating in the AoA. Under the AoA, rules for agricultural support under the so-called "three pillars" are defined. These three pillars of support are:

- Market access; broadly, this pillar focuses on instruments that restrict imports, such as import tariffs, quotas and special safeguards on agricultural products.
- Domestic support; under this pillar, the AoA aims to discipline the level and type of domestic support that benefits farmers. The AoA distinguishes between trade-distorting support (domestic policy measures that artificially raise or lower prices or stimulate production) and non-trade distorting support (publicly-funded government programmes, including foregone revenue, that do not directly support prices or stimulate production).
- Export competition; this pillar focuses on, inter alia, export subsidies (i.e. policy measures that directly link the level of support to exports of a product).

2.1.2 Definition of a subsidy

The terms 'subsidy' and 'support' are both used in the WTO AoA. For example, it speaks of "domestic support" and "export subsidies", and further refers to "investment subsidies" and "agricultural input subsidies" within the provision encompassing domestic support.

However, the terms "support" and "subsidy" are not necessarily well defined or uniform in their interpretation. Specifically, agricultural subsidies are often either seen as a subset of agricultural support policies or used interchangeably with the term "support". For example, a narrow definition of a subsidy would only include instruments where a transfer of resources from government to private individuals or organisations takes place.[2]

Of import, however, is understanding that any 'subsidy' or 'support' provided for under the AoA must satisfy the definition of a subsidy as provided for in the WTO. Under the WTO's Agreement on Subsidies and Countervailing Measures[3], a subsidy is deemed to exist if a benefit is conferred to the recipient through:

- a financial contribution by a government or public body; or
- any form of income or price support.

Importantly, this broad definition of subsidies implies that both budgetary transfers from government to producers and price support measures (domestic and import-oriented) qualify as a "subsidy" within WTO jargon.[4]

2.2 The OECD's accountancy system on agricultural support

The OECD agricultural support indicators were mandated for development by OECD Ministers in 1987, with the aim to monitor developments in agricultural policy and provide a data-based approach with which to asses these policies. As the OECD has developed its framework, it has also expanded the review of agricultural support to include non-OECD countries.

Given the consistent reporting on this information by the OECD and the inclusion of countries beyond the OECD in its review, the OECD's indicators on agricultural support are among the most widely used for policy analysis.

The OECD uses a number of indicators through which the level and composition of support provided to the agricultural sector is monitored and evaluated. The indicators identify three economic groups: the taxpayer (i.e. the government), the consumer and the agricultural producer(s).

In measuring support to the agricultural sector, the OECD defines support as "transfers" to agriculture from both consumers and governments, due to government policies in support of

---

[2] See, for example, Dorward, A and Morrison, J, 2015, "Heroes, villains and victims: agricultural subsidies and their impacts on food security and poverty reduction" in Robinson, G.M. and Carson, D.A. (eds), Handbook on the globalisation of Agriculture, Edward Elgar Publishing, Cheltenham, UK.

[3] See also the WTO definition of a subsidy found under Article XVI of the General Agreement on Tariffs and Trade (GATT). Under this article, subsidies are described as "*any form of income or price support, which operates directly or indirectly to increase exports of any product from, or to reduce imports of any product into* a country's territory".

[4] Further, a subsidy may only be considered prohibited or actionable or subject to countervailing measures if it is deemed to be specific in nature i.e. specific to an enterprise or industry or group of enterprises or industries. See the WTO, Agreement on Subsidies and Countervailing Measures.

agriculture. Support is therefore measured in the form of both budgetary (explicit) transfers and indirect (implicit) transfers.[5]

Support to agricultural producers further distinguishes between policies favouring individual producers and those benefiting agricultural producers as a whole. Importantly, budgetary transfers to consumers are included in the OECD's measure of total support to agriculture. Conceptually this makes the OECD's measure of total support to agriculture significantly different to the WTO's Aggregate Measure of Support (AMS).

2.3 Use of information

2.3.1 Terminology used in the report

The terms of reference for this study require an assessment of "agricultural subsidies". However, as highlighted previously, the definition of a 'subsidy' is open to interpretation, depending on both the context and source of information.

The WTO's definition of a subsidy includes price support mechanisms, which significantly expands the list of potential subsidy instruments and measures beyond government budget transfers to producers. At the same time, the WTO AoA uses the terms subsidy and support almost interchangeably, while the OECD refers broadly to 'support' for agriculture.

Given this, the report takes the following approach in use of terminology and analysis of information. Rather than referring to agricultural subsidies to producers, the report makes reference to agricultural support to producers, noting that this incorporates both income and price support measures. This approach aims to avoid confusion with the narrow definition of a subsidy.

2.3.2 Comparability of OECD and WTO data

While both the OECD and WTO information include price support mechanisms in the broad definitions of agricultural support, the different data sources are not directly comparable nor compatible. The WTO measurement of support (and particularly in terms of the AMS indicator) provides a narrower measure of domestic support than the OECD indicators. The WTO also does not directly quantify the level of support provided through all three of the AoA's pillars, while the OECD data does not classify support according to the AoA's "pillars".

Finally, because the method of data collection differs (the WTO relies on self-notification by Members, while the OECD internally collects and compiles information), the OECD data is considered to be both a more recent and accurate portrayal of total support to agriculture producers over time. The differences in OECD and WTO data on agricultural support are more fully explained in Appendix A.

Because of these differences, the analysis takes a dual approach to reviewing support provided to agriculture. Initially, an overview of the WTO's AoA is provided, with information collated primarily through a review of WTO country notifications and WTO trade policy reviews. This is necessary because the WTO provides the broad global legal framework under which South Africa and its trading partners are expected to operate. This overview includes an

---

[5] See "Introduction to PSE indicators", p.3.

analysis of the extent of 'box shifting' (a term which will be clarified in the next section) over time, where data is available.

The OECD data is then used to provide a more detailed quantitative analysis of the relative levels of support across countries and commodities. This includes providing estimates of the total level of support to the agriculture sector, support provided specifically to agriculture producers and a commodity-specific analysis.

3   Analysis of agricultural trade and production

The production and trade of the study's agricultural commodities of interest is summarised in the following section. The focus of the analysis is on primary commodities, based on the Food and Agricultural Organization's (FAO) classification and grouping of the different agricultural commodities. The concordance between the FAO classification and the harmonised system product code is provided in Appendix A.

3.1   Production of selected commodities

The production of the eight commodities by South Africa and the six trading partners is summarised in Figure 1 and Figure 2. South Africa is a comparatively small producer of maize and wheat, respectively accounting for 1% and 0.2% of global production between 2012 and 2016.

Figure 1: Share of production, selected major food crops (average vol., 2012 – 2016)
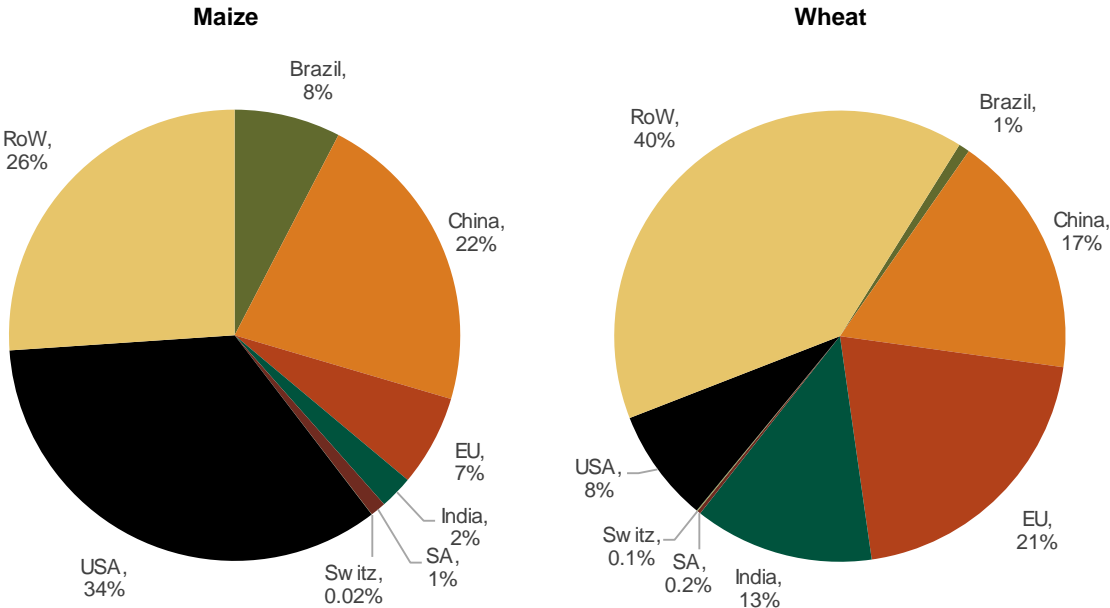
Source: DNA based on data from FAOSTAT.

South Africa's production for other selected agricultural commodities is similarly low, as shown in Figure 2, accounting for roughly 1% of global production of beef, dairy, poultry and sugar. Its production of soya and cotton is even lower, making up 0.3% and 0.03% of global production respectively.

Concerning South Africa's relevant trading partners, these countries are large global producers of the commodities of interest:

- Brazil is a particularly large producer of sugar and soya, making up approximately one-third of global production of these commodities. It is also a relatively large producer of maize, beef, dairy, poultry and cotton.
- China is a significant global producer of maize, wheat, beef, poultry and cotton.
- The EU has a large share of global production in wheat and dairy, and is also a significant producer of poultry, maize, beef and sugar.
- India is a large producer of wheat, cotton and -in particular- sugar.
- USA is a major global producer of maize, beef and soya, but also produces significant quantities of wheat, dairy, poultry and cotton.

Switzerland, by comparison, is a small producer of the selected commodities in global terms, making up less than 1% of production across almost all of the selected commodities.

Figure 2: Share of production, selected other products (average vol., 2012 – 2016)

Beef

- Brazil, 8%
- RoW, 26%
- China, 22%
- EU, 7%
- India, 2%
- SA, 1%
- Switz, 0.02%
- USA, 34%

Dairy

- Brazil, 5%
- China, 5%
- RoW, 39%
- EU, 26%
- India, 9%
- SA, 1%
- Switz, 1%
- USA, 14%

Poultry

- Brazil, 9%
- RoW, 39%
- China, 23%
- EU, 10%
- India, 4%
- SA, 1%
- Switz, 0.1%
- USA, 14%

Soya

- RoW, 28%
- Brazil, 29%
- China, 4%
- EU, 1%
- India, 4%
- SA, 0.3%
- Switz, 0.001%
- USA, 34%

Cotton

- Brazil, 6%
- RoW, 31%
- China, 26%
- EU, 1%
- India, 25%
- SA, 0.03%
- USA, 11%

Sugar

- RoW, 34%
- Brazil, 34%
- China, 6%
- EU, 6%
- India, 16%
- SA, 1%
- Switz, 0.1%
- USA, 3%
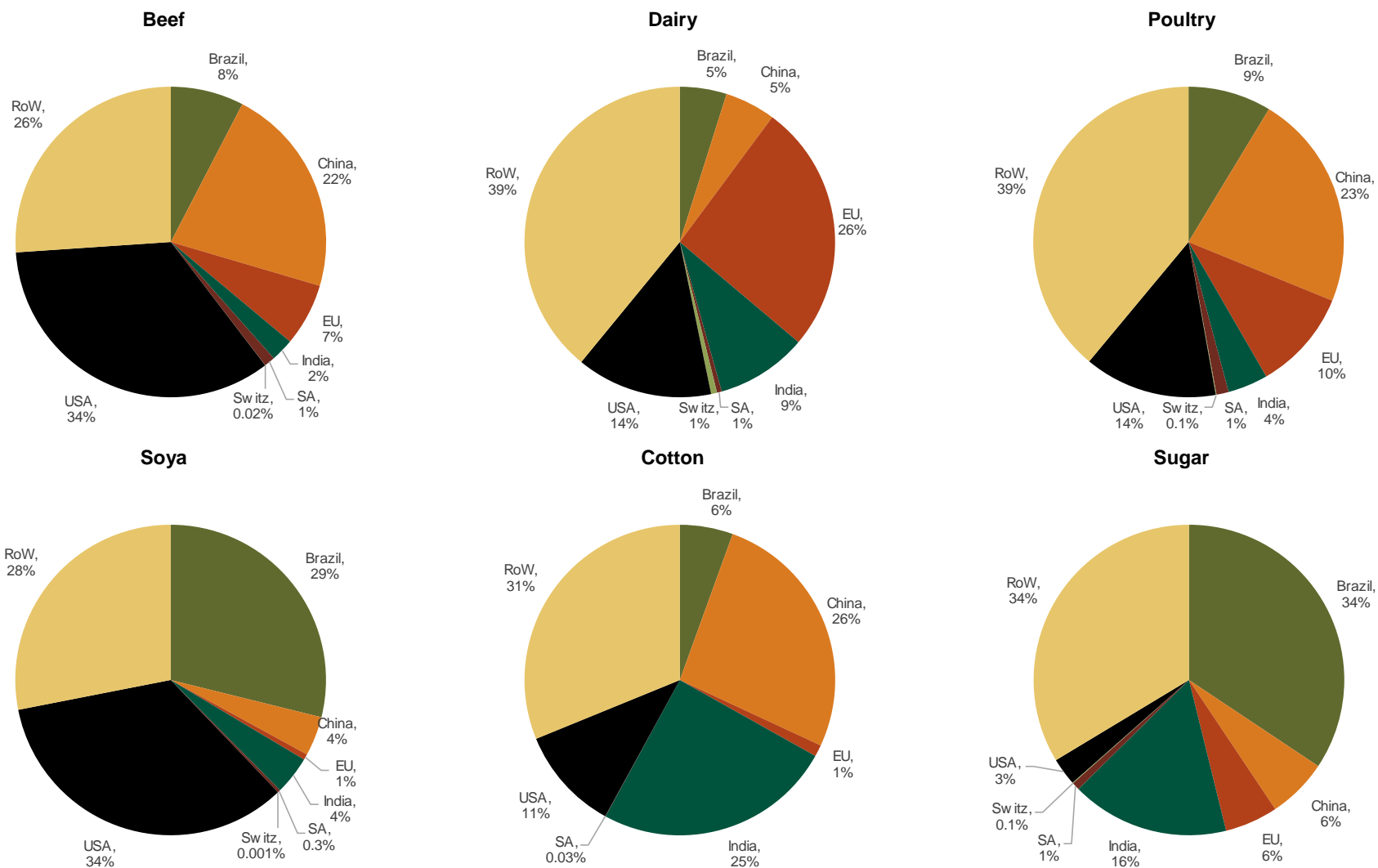
Source: DNA based on data from FAOSTAT.
For cotton, production data is not available for Switzerland. Sugar reflects combined average for sugar cane and beet between 2012 and 2016 and for raw sugar between 2012 and 2014.

3.2   Trade in selected commodities

As reflected in Figure 3, South Africa's share of global trade in agricultural products is relatively low. In 2016, South African agricultural exports accounted for roughly 0.65% of global agricultural exports, having increased from a share of 0.5% in 2007. South Africa's share of global imports has remained relatively constant, at between 0.4% and 0.5% of total agricultural imports, over this period.

Figure 3: South Africa's trade in agricultural products
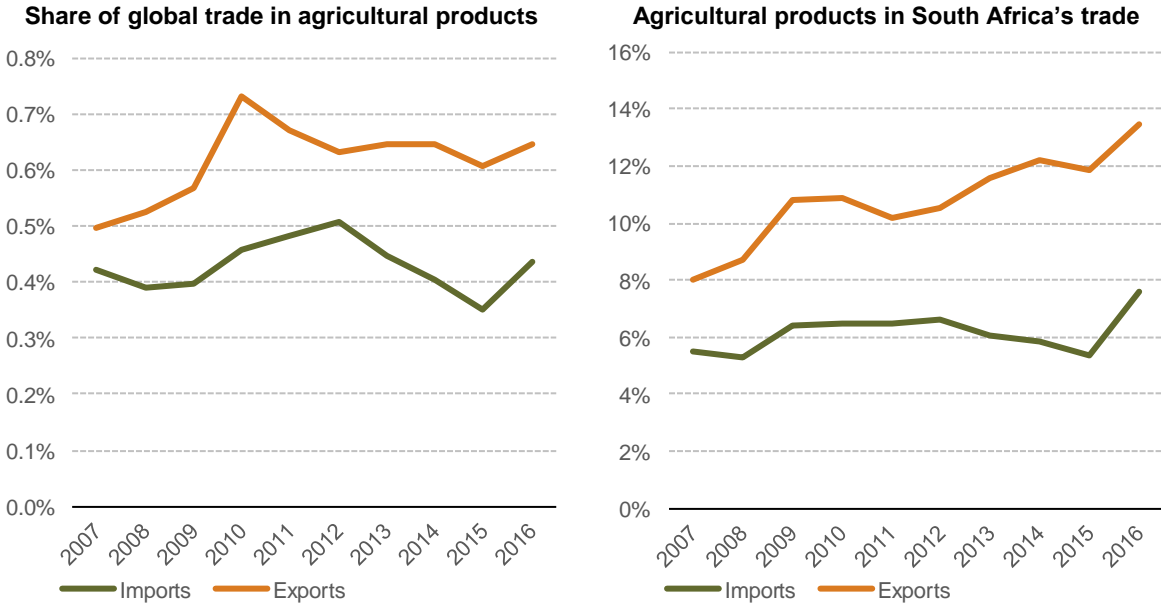
Source: DNA based on data from ITC Trademap.

The share of agricultural trade in South Africa's trade bundle is also reflected in Figure 3. In 2016 just over one-tenth of South Africa's total merchandise exports was made up of agricultural products, up from roughly 8% in 2007. The share of agricultural product imports in South Africa's total merchandise imports is lower, making up less than 8% of total imports in 2016. Despite being a net importer (in aggregate for all merchandise goods) since 2007, South Africa has been a net exporter of agricultural products for all years between 2007 and 2016.[6]

Table 1 shows the broad trade profile for this study's selected agricultural commodities and South African trading partners. For all of the selected commodities SA's share of global exports and imports is less than 1.5%, and for products such as soya, wheat and cotton its share of global trade is far lower than this.

It is also clear from Table 1 that Brazil, the EU and the USA are significant global exporters for many of the selected commodities. Brazil is estimated to account for more than one quarter of global poultry exports, more than one-third of global soya exports and close to two-thirds of sugar exports. Similarly, the EU is a large global exporter of dairy, poultry and wheat products, while the USA's share of global exports of beef, maize, soya and cotton is close to or exceeds 30%.

---

[6] Based on the WTO merchandise trade data and its classification of agricultural commodities.

Table 1: Share of global exports and imports, 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

In terms of imports, China and the EU are major destination markets globally. For China, this is especially true of soya (where its share of global imports has, on average, exceeded 60% between 2012 and 2016) and cotton (where it accounted for close to one-third of global imports). The EU, on the other hand, is a major global importer of all selected commodities, with its share of poultry and dairy imports especially high.

Table 2 shows the trade balance for the selected commodities, highlighting that, among South Africa's trading partners, USA and Brazil were particularly large net exporters for most of the commodities. Despite being a major commodity producer, China was a net importer for all of the selected commodities between 2012 and 2016. Over this period, the EU was a net importer of beef, maize, wheat, soya and sugar products, while South Africa was a net importer of poultry, wheat, soya and cotton.

Table 2: Average trade balance for selected commodities, 2012 – 2016, ZAR billion

Net exports	Beef	Poultry	Dairy	Maize	Wheat	Soya	Cotton	Sugar
Brazil	50.7	36.6	-0.8	50.7	-15.3	230.6	7.6	29.7
China	-10.6	-2.1	-17.5	-10.6	-12.0	-403.3	-28.8	-5.6
EU	-20.5	9.3	30.0	-20.5	57.3	-72.7	1.3	-6.2
India	6.8	0.2	1.0	6.8	3.8	1.0	11.6	-1.4
SA	2.7	-1.2	0.6	2.7	-3.4	-0.4	-0.2	0.2
Switz	-0.5	-1.1	0.1	-0.5	-1.6	-0.1	-0.1	0.0
USA	96.0	21.4	10.1	96.0	71.5	241.6	26.1	-3.9

Source: DNA based on data from ITC Trademap.
Green reflects net exports, red reflects net imports.

From the South African perspective, destination markets for its selected-commodity-exports are largely within Southern Africa. As shown in Table 3, the Southern African Customs Union (SACU) and the broader Southern African Development Community (SADC) are the primary destinations for South Africa's exports of the eight commodities. For dairy, poultry and wheat products, these two regions accounted for more than 90% of South African exports between 2012 and 2016. More than 50% of South African exports of maize, cotton and sugar was also destined for these two regions over this period. A lower, but still significant, proportion of South African exports of beef and soya were to these regions between 2012 and 2016.

Table 3: Destination and source markets for South African trade in selected commodities

SA exports	Beef	Poultry	Dairy	Maize	Wheat	Soya	Cotton	Sugar
Brazil	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%
China	0.1%	0.0%	0.0%	0.3%	0.0%	2.7%	5.7%	0.0%
EU	0.1%	0.1%	0.0%	3.3%	0.0%	0.3%	0.3%	0.5%
India	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	1.0%
Switzerland	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%
USA	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	6.5%
SACU	27.8%	52.8%	63.9%	31.0%	70.0%	5.1%	53.2%	52.4%
Rest of SADC	18.3%	44.5%	34.5%	22.0%	28.5%	14.9%	4.5%	8.3%
RoW	53.7%	2.6%	1.6%	42.5%	1.5%	76.8%	34.6%	31.2%
SA imports	**Beef**	**Poultry**	**Dairy**	**Maize**	**Wheat**	**Soya**	**Cotton**	**Sugar**
Brazil	0.0%	31.8%	0.1%	12.6%	5.5%	21.9%	2.3%	23.2%
China	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EU	0.0%	60.5%	67.6%	1.7%	18.9%	0.5%	0.0%	0.8%
India	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.5%
Switzerland	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	3.0%
USA	0.0%	2.0%	1.6%	6.8%	4.7%	2.4%	0.5%	0.1%
SACU	91.7%	0.1%	1.1%	0.1%	0.0%	0.0%	2.7%	63.1%
Rest of SADC	0.7%	0.0%	0.3%	2.6%	0.0%	9.6%	90.7%	2.7%
RoW	7.5%	5.7%	29.1%	76.0%	70.9%	65.6%	3.5%	6.7%

Source: DNA based on data from ITC Trademap

In terms of South African imports, the source market for the selected commodities is less concentrated. Major source markets include Brazil, SACU, the EU and USA. However, for some products, South African imports are sourced from a small number of markets. More than 90% of South African imports of poultry were sourced from the EU and Brazil combined between 2012 and 2016. The EU was also the main source of South Africa's dairy imports over this period. Considering South African imports of beef and sugar, the primary source market was within SACU, while cotton was imported primarily from the rest of SADC.

3.3 Summary

The analysis of production and trade data for the selected commodities highlights a number of findings. First, South Africa is, in global terms, a minor producer of primary agricultural products, accounting, on average, for less than 1% of global production of the selected commodities. It also therefore has a comparatively small share of global trade in primary agricultural goods, and primary agricultural commodities make up a small share (less than one-tenth) of South Africa's trade basket.

Second, Brazil, the EU and USA are all major agricultural producers and exporters across many of the commodities of concern for this study. These countries are also significant net exporters (i.e. exports significantly exceed imports) of these commodities.

Third, while China is a major global producer of many of the selected commodities, it has a small share of global exports, and is in fact a net importer for all of the selected commodities. This highlights that much of China's production is for internal consumption, rather than being export driven.

3.4 Policy implications from trade analysis

The analysis suggests that South Africa's key primary agricultural export markets are regional rather than global. That is, a significant portion of its primary agricultural output that is exported is destined for neighbouring economies within the SACU and SADC regions. Given that much of South Africa's exports to these regions are (or should be) duty-free, South Africa should aim to focus on ensuring that the market access gains attained through tariff liberalisation are not nullified/neutralised due to the implementation of non-tariff barriers. In particular, South Africa should use existing regional agreements to ensure that non-tariff barriers (that are a common hindrance to cross-border trade in agriculture) should be addressed by focusing on harmonising health regulations, standards and certification requirements across the region.

From an import competition perspective, South Africa is able to impose trade remedy measures where its trading partners are found to have engaged in unfair and even fair trade practices. This includes the use of antidumping measures (which have been extensively applied in respect of both agricultural and non-agricultural goods), the use of countervailing measures (which are yet to be applied with respect of agricultural products) and the use of safeguard measures (which have been used for some imported product agricultural products including frozen potato chips).

Looking beyond the SACU and SADC regions, South Africa's main source markets for primary agricultural products are the EU, USA and Brazil. For these countries, the extent to which South Africa can raise its applied import duty levied against a particular agricultural product depends on the WTO bound rate applicable to that product, as well as tariff commitments made under the existing trade agreements.

For the EU, South Africa (as part of SACU together with Mozambique) has concluded an Economic Partnership Agreement (EPA) which in many instances restricts its ability to raise import duties in order to protect the local agriculture industry. Nevertheless, there remain a

number of safeguard instruments and other trade remedies within the EPA that South Africa can utilise where domestic industries are found to be injured by EU exporters.[7]

For the USA no reciprocal trade agreement is in place, even though South Africa has preferential access to the USA through the African Growth and Opportunity Act (AGOA).[8] While South Africa (as part of SACU) has a preferential trade agreement with Brazil through its agreement with the Common Market of the South (MERCOSUR), this agreement primarily covers non-agricultural products. Any increase in South Africa's applied (or most-favoured nation (MFN)) import duty for agricultural products would therefore also raise the import duty for imports from the USA and Brazil (and in some instances also for imports from the EU).

However, the benefit of protecting domestic primary agriculture producers from (fair) import competition (through higher applied import duties) would need to be weighed against the cost to both downstream producers and end-consumers.

4 Agricultural support under the WTO AoA framework

The WTO AoA is a result of multiple rounds of negotiation and entered into force in 1995. The agreement aims to regulate the type and level of agricultural support provided by WTO Members. The rationale for the implementation of this agreement stemmed from historically large direct subsidies and high import barriers that WTO Members (and developed countries in particular) were using to support domestic agricultural production and increase export competitiveness.

Because of the perceived trade distorting nature of this support, WTO Members agreed to the establishment of a framework for agricultural support under the AoA. This section provides a brief overview of agricultural support under the three support pillars within this framework, for South Africa and its trading partners.

4.1 Domestic support

4.1.1 The different 'boxes' of domestic support

In modern WTO parlance, domestic support to agricultural producers is identified by reference to a range of coloured 'boxes'. There are specific rules for each box category that determines *which* countries may use the boxes, *when* they may use them and to *what extent* the boxes may be used. Each of these agricultural support boxes are briefly discussed below.

4.1.1.1 The 'Amber Box'

Domestic support measures that are considered to distort production, and hence distort trade through oversupply, are categorised as 'amber box' support. When this box was designed, WTO Members had to quantify the level of this type of support they were providing, cap this amount and reduce it over time. Developing countries could make smaller reductions over a longer period. Formally this amount is referred to as 'the aggregate measure of support' (AMS).

---

[7] South Africa has already made use of such safeguards, most recently implementing a four-year safeguard on poultry imports from the EU. For more see Government Gazette No. 41939, No. R.1009, 28 September 2018.

[8] This preferential access runs until 2025, unless the USA decides to remove South Africa from the list of AGOA beneficiaries prior to that date.

As a general rule, only those countries that did this quantification exercise and subsequently listed this type of support on a so-called 'schedule of commitments' (like a licence to provide the support) can use the amber box today. There are 34 countries in this category out of a total WTO membership of 164 countries (as at 2018) with South Africa, Morocco and Tunisia being the only African countries. Brazil, the EU, Switzerland-Liechtenstein and the US all have access to this amber box, while China and India have no provision for support under the classification.

This box acts as a catch-all category as well, with any other support measure not found to be exempt in some other manner forming part of the category by default.

The instrument/facility encapsulates two kinds of support mechanisms. The first is **price support[9],** where the government sets minimum or fixed commodity price levels at more favourable prices than those available on world markets. The second is **direct payments** to producers directly related to production volumes. The latter measure can be product specific or non-product specific. The scheduled commitments are expressed as a single amount in terms of a 'Total Aggregate Measurement of Support', which includes all supports for specified products together with supports that are not for specific products.

4.1.1.2   De Minimis support

Through a mechanism called the '*de minimis*' rule, all countries are allowed to provide a minimal amount of trade distorting support without this support contributing to their amber box limits. Essentially this is a legal term implying that some support is considered too small/negligible to be included in the amber box. There are no requirements imposed by the AoA to reduce such support.

A distinction is also made between 'product-specific domestic support' and 'non-product-specific support'. Under product-specific support, a Member is allowed to provide trade distortive support equal to 5% of that Member's total value of production, for that particular agricultural commodity during a relevant year. In addition to this, a Member can provide trade distortive domestic support under non-product specific support equal to 5% of the total value of agricultural production during a relevant year[10].

For WTO Members designated as developing countries, a *de minimis* allowance of 10% per category (i.e. product-specific and non-product-specific support) is provided for.[11] In ongoing Doha negotiations, the trend on discussions is to determine whether these support measures should be reduced, and whether limits should be set for specific products rather than continuing with the single overall AMS limit.

4.1.1.3   The 'Blue Box'

The 'blue box' basically represents a carve-out from the 'amber box'. The WTO Secretariat often refers to it as *the amber box with conditions.* Any support that would normally be in the amber box is classified in the blue box if the support is linked to production *but requires farmers*

---

[9] Under the AoA, there appears to be a distinction between domestic price support mechanisms (such as administered price regimes) and import duties / tariffs which fall under the market access pillar. In practice, however, these mechanisms may overlap.

[10] See Article 6(4)(a)(i) and (ii) of the AoA.

[11] See Article 6(4)(b) of the AoA.

to limit production to some extent. The EU has been an active user of the blue box during the period assessed in this analysis.

This box applies to **direct payments** under production-limiting schemes that are (i) based on fixed areas and yields; (ii) are made on 85% or less of the base level of production; or (iii) are made based on a fixed number of livestock.[12] Direct payments under this box are exempted from any reduction commitments and shall be excluded in the AMS determination of a Member.[13] In practice this means that potential spending on the blue box is unlimited.

Only 7 regions (EU, US, Norway, Japan, Iceland, Slovenia and the Slovak Republic) have ever used the blue box.[14] For any country encouraging production that stems from food security concerns, a production-limiting programme like the blue box does not make good sense. This is partly why developing countries, like South Africa, do not use the blue box (there is, however, room for some such nations to use the blue box instrument).

This blue box is also potentially dangerous in terms of distortion effects, despite its low use, as there are no limits on spending on blue box support measures under the current AoA rules. In the Doha negotiations, the trend has been to cap the box, but not eliminate it as many thought (and hoped) would be the case.

4.1.1.4 The 'Brown (Development) Box'

The 'brown' or 'development box' is essentially pure 'amber box' support with a carve-out in respect of the standard amber box for developmental purposes.[15] This provision relates to developing countries and is basically constructed as the basis for special and differential treatment as regards the amber box.

The provision exempts three types of support measures from reduction commitments and which shall not form part of the calculation of the total AMS for a developing country Member. These are investment subsidies, input subsidies and payments to diversify from drug production. This box is open ended and there are no limits as to how much developing countries are allowed to spend on these payments.

4.1.1.5 The 'Green Box'

The 'green box' can be considered as being a 'free to support' box. In order to qualify as green box, support measures must not distort trade, or must cause very minimal trade distortion.[16] These measures have to be government-funded, meaning that the funding must flow directly from the fiscus as opposed to making transfers to producers by charging consumers higher prices. In other words, this must not involve price support nor be linked to production volumes. This box is open-ended, and there are no limits as to how much WTO Members are allowed

---

[12] See Article 6(5)(a)(i) and (ii) of the AoA.

[13] See Article 6(5)(b) of the AoA.

[14] The 'blue box' is the result of a deal struck between the USA and the EU to break the negotiating impasse that existed during the latter days of the Uruguay Round of negotiations, called the Blair House Accord. In this way, both the USA and the EU escaped the amber box reduction commitment on major aspects of their domestic support policies. The marketing spin under which they sold the concept was that it would reduce distortions by paying farmers to produce less i.e. to reverse over production that their 'amber box' payments had caused in the past.

[15] See Article 6(2) of the AoA.

[16] See Annex 2 of the AoA.

to spend on these payments. The green box is fully accessible to both developed and developing countries.

Annex 2 of the AoA provides a set of general criteria for green box support. This is followed by a non-exhaustive list, which enumerates specific additional criteria in order for support to be deemed green box. This illustrative list thus provides a sense of the shades of green that are considered acceptable. The provisions are not required to be disaggregated and may be provided in a commodity specific way, as long as support meets the general criterion of having no, or at most minimal, trade distorting effects.

One of the green box support measures listed specifically in the AoA is 'General Services'[17] which includes research services, pest and disease control services, training services, extension and advisory services, inspection services, marketing and promotion services and infrastructure services.

At the 9th WTO Ministerial Meeting held in Bali, Indonesia, the Ministerial Conference decided[18] to include, as part of these General Services, programmes relating to land reform and rural livelihood security. This include support for programmes such as land rehabilitation; soil conservation and resources management; drought management and flood control; rural employment programs; and farmer settlement programs. The aim of these programmes is to promote rural development and poverty alleviation.

Other green box support policies include:[19]

- Public stockholding for food security purposes;
- Domestic food aid;
- Direct payments to producers;
- Decoupled income support;
- Government financial participation in income insurance and income safety-net programs;
- Payments (made either directly or by way of government financial participation in crop insurance schemes) for relief from natural disasters;
- Structural adjustment assistance provided through producer retirement programs;
- Structural adjustment assistance provided through resource retirement programs;
- Structural adjustment assistance provided through investment aids;
- Payments under environmental programs; and
- Payments under regional assistance programs.

In the Doha negotiations the trend of discussion is essentially that the green box will remain with some tightening of loopholes in the current text of the Agreement. There are some economists who hold the view that some of the green box support measures might not meet the general 'non-distorting' criteria because of the vast amounts of support provided. The

---

[17] See Annex 2(2) of the AoA.

[18] See WT/MIN (13)/37, dated 7 December 2013.

[19] See Annex 2 of the AoA.

suspect green candidates are (i) direct payments including decoupled income support, (ii) government financial support for income insurance; and (iii) income safety-net programmes.

4.1.2   Estimates of domestic support under the WTO AoA framework

An estimate of the total domestic support provided to agriculture by the selected countries is summarised in Figure 4 and Figure 5. This is based on notification by countries to the WTO and calculated as the sum of domestic support provided under the different boxes. Figure 4 provides the absolute total domestic support (in billions of US Dollars). In absolute terms, the USA's level of domestic support has grown significantly since 2007, and in 2015 its domestic support for agriculture was estimated to be in the region of US$ 140 billion.

Figure 4: Estimate of total domestic support (US$ billions)
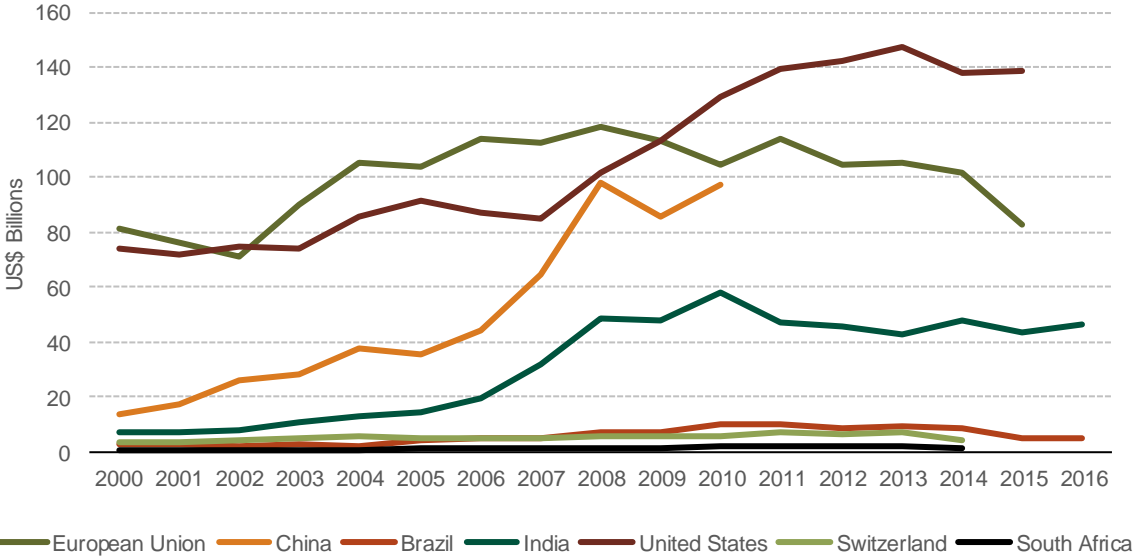
Source: Compiled from data in country notifications to WTO. Data converted to US$ using exchange rates from World Bank.
Reflects the sum of support under the various AoA 'boxes' (Amber, De minimis, Blue, Brown, Green)
Data for China not available beyond 2010.

China is also seen to have significantly increased domestic support for agriculture, with this increasing significantly between 2005 and 2010, by which time its total domestic support was estimated to be close to US$ 100 billion. After increasing between 2006 and 2008, India's level of domestic support has remained relatively constant, and in 2016 was estimated to be approximately US$ 45 billion. By comparison, in absolute terms, the level of domestic support provided by South Africa, Switzerland and Brazil was significantly lower. In 2014, South Africa's total domestic support is estimated to have been less than US$ 2 billion.

Figure 5: Estimate of total domestic support (% of GDP)
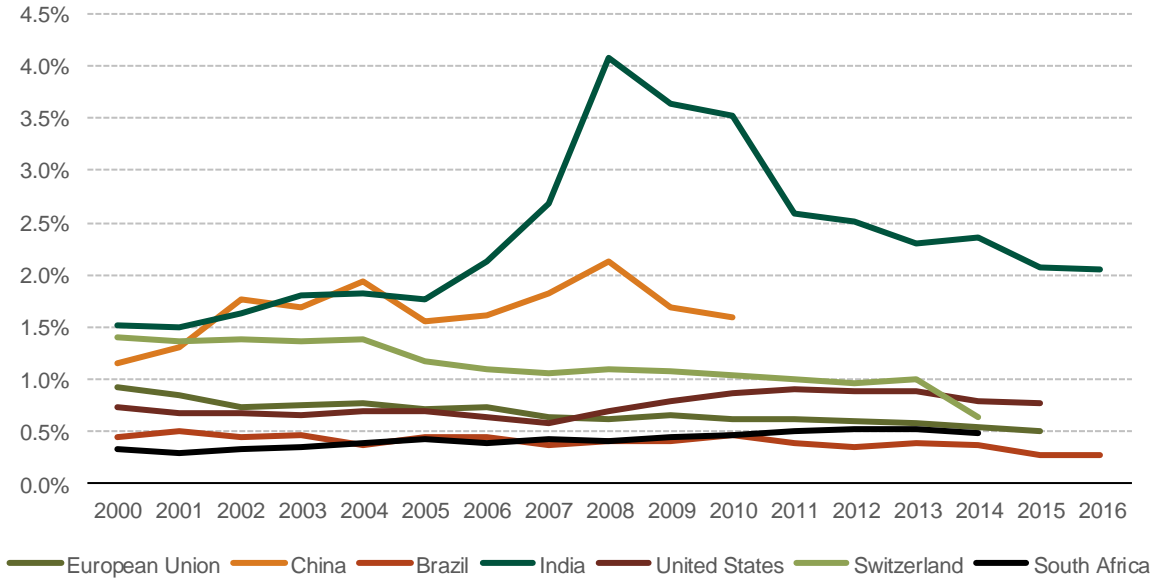
Source: Compiled from data in country notifications to WTO. Data converted to US$ using exchange rates from World Bank, GDP (in current US$) from World Bank WDI.
Data for China not available beyond 2010.

Figure 5 shows the extent of domestic support as a percentage of GDP. From this perspective, the burden of domestic support is highest for India, with total domestic support estimated to be have peaked at 4% of GDP in 2008, before declining to just over 2% by 2016. China's burden of support was estimated to be 1.5% of GDP in 2010. Brazil is estimated to have provided the lowest relative level of domestic support, estimated to be 0.3% of GDP in 2016. South Africa's domestic support burden was estimated to be 0.5% of GDP in 2014. For the remaining countries the burden of domestic support has ranged between 0.5% and 1.5% of GDP.

4.1.3   Support measures under different boxes

Figure 6 provides a summary of the domestic support provided across the different boxes, for the selected developed countries and South Africa. For the developed countries, there is a clear trend toward an increased use of green box support relative to support measures available under other boxes. This is especially true for the EU, where the proportion of green box support has increased from 25% between 1999 and 2001, to more than 80% of total domestic support between 2014 and 2016.

For the USA and Switzerland, this trend is less pronounced, but still clear. Switzerland's use of green box support has increased from roughly 55% of total domestic support between 1999 and 2001 to more than 65% in 2014. Similarly, for the USA green box support (as a proportion of total domestic support) increased from under 70% between 1999 and 2001 to just under 90% by 2014.

Figure 6: Support (as % of total domestic support), developed countries and South Africa
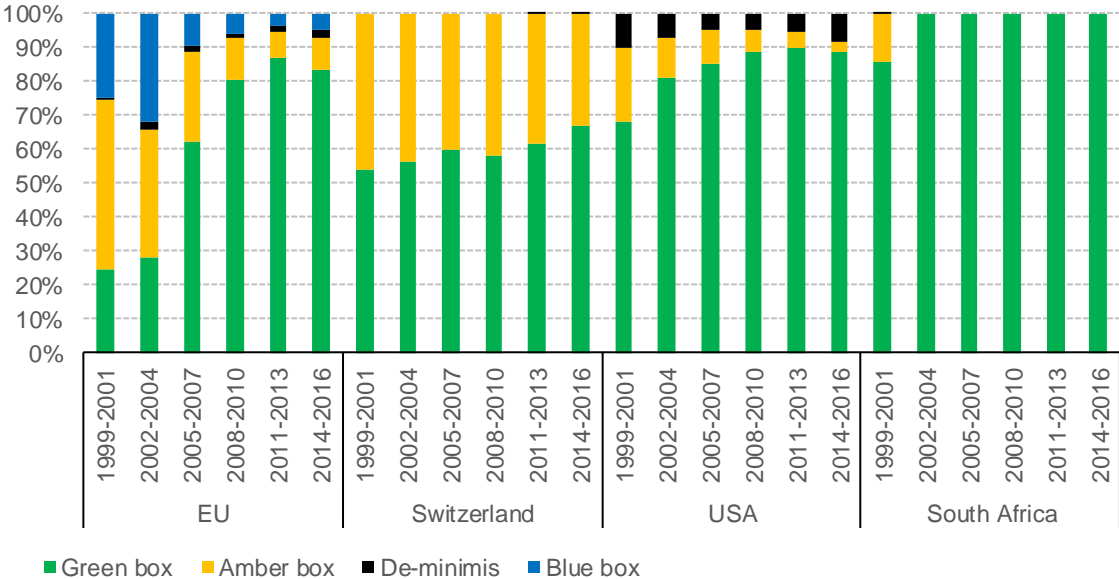
Green box ■ Amber box ■ De-minimis ■ Blue box

A comparison of the type of domestic support provided by the selected developing countries and South Africa is provided in Figure 7. There are no clear trends in the shift of type of support provided, though for India the data suggests that it has made use of predominantly brown box support.

Figure 7: Support (% of total domestic support), developing countries
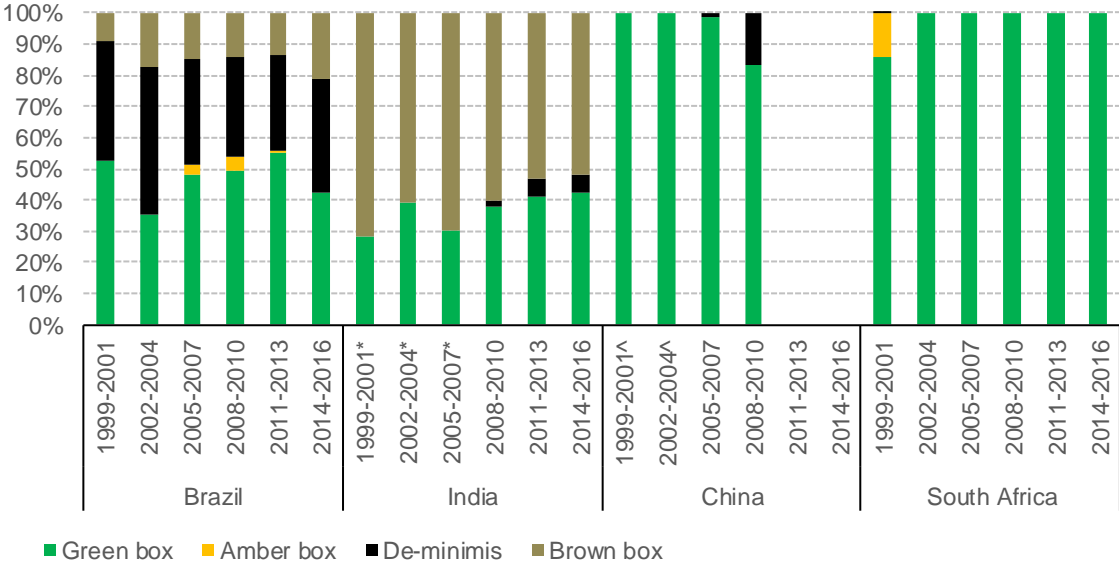
Green box ■ Amber box ■ De-minimis ■ Brown box

For Brazil, de minimis support policies have also formed a significant share of domestic support, accounting for just under 40% of total reported domestic support provided between 2014 and 2016. South Africa has reported using primarily green box support since 2002.

4.1.4　　Extent of box shifting

The previous analysis highlights that the selected developed countries, in particular, have increased the use of green box support measures, relative to support measures available under different boxes. However, formally, box shifting happens when support is shifted from the amber box to the reduction-exempted blue or green box resulting in the overall level of support provided (comprising of the total of all the boxes) not being reduced. That is, an absolute decline in amber box support must be accompanied by an absolute increase in either green or blue box support for box shifting to have occurred.

As noted by UNCTAD this form of box shifting "*may be beneficial if it is the result of a real reform that reduces the trade distortion. However, there is concern that box-shifting enables countries to reclassify policies without undertaking meaningful reforms. Support programmes may qualify for different boxes and different countries may put similar support programmes into different boxes, thereby undermining the purpose of the domestic support reduction commitments*"[20].

To ascertain the level of box shifting that has taken place for the selected developed countries, Figure 8 provides a summary of the annual cumulative change in support under the green, blue and amber boxes. For the EU, it is clear that the increased use of green and blue box support measures has been accompanied by a cumulative decline in support under the amber box. In fact, between 2000 and 2015, the cumulative decline in amber box support had exceeded the increase in green and blue box support.

---

[20] See UNCTAD publication UNCTAD/DITC/TNCD/2006/7 "Training Module for Multilateral Trade Negotiations on Agriculture" (UNCTAD Training Module), p. 41.

Figure 8: Cumulative annual change under the green, blue and amber boxes (US$ Billion)

EU

USA

Switzerland
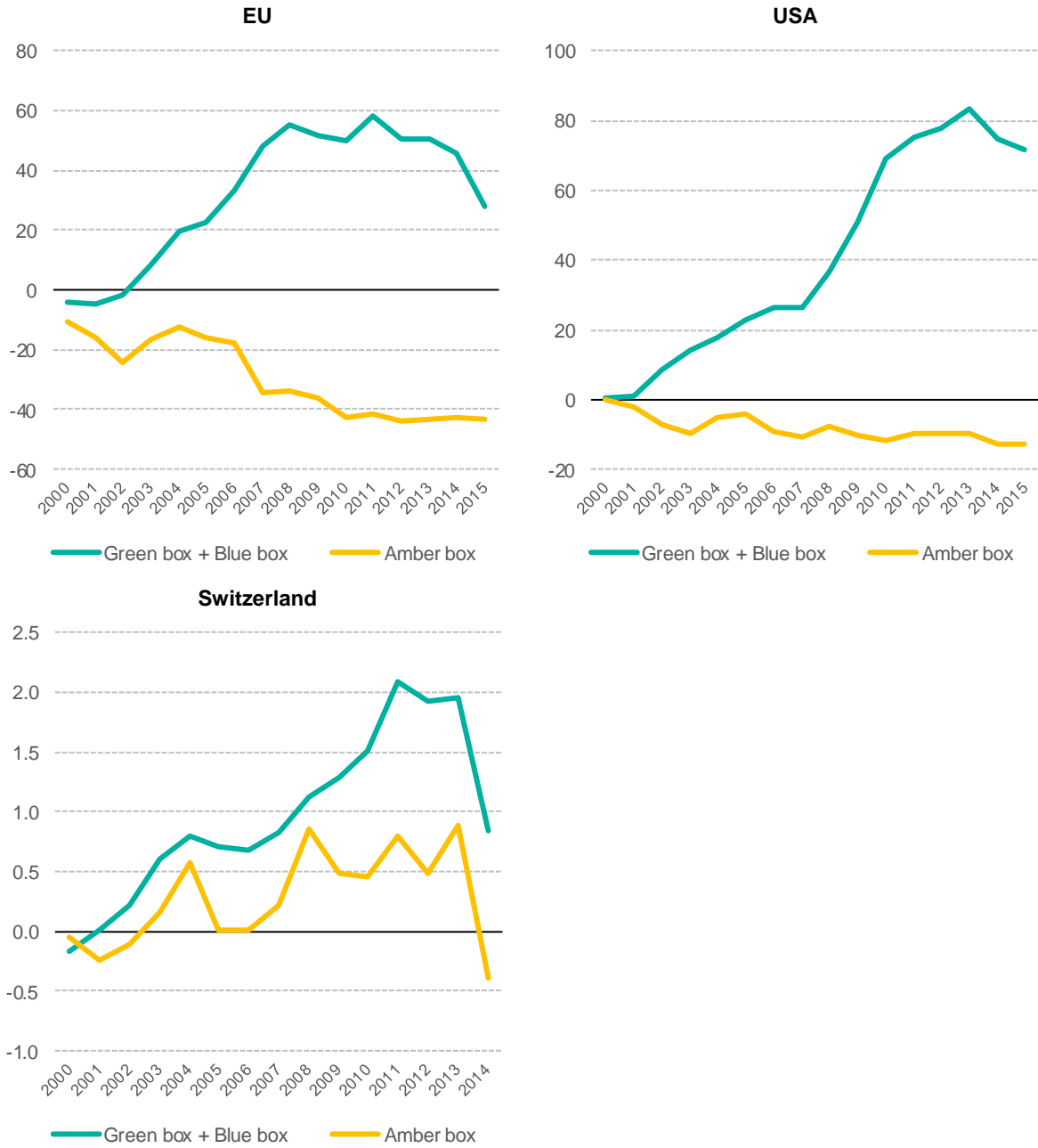
Source: Compiled from data in country notifications to WTO. Data converted using exchange rates from World Bank.

For the USA, the cumulative decrease in amber box support has been far lower than the cumulative increase in green and blue box support over this period (and similarly so for Switzerland). This suggests that the EU has made extensive use of box shifting, while the USA and Switzerland have done so, albeit to a lesser degree.

A similar analysis is not undertaken for the selected developing countries given that China and India have no amber box support facilities and Brazil has made limited historic use of its available amber box support thresholds. From the earlier Figure 7, however, the proportionate use of green box support (which is seen to be non-distorting) over more trade distorting forms of support (such as de minimis, brown box or amber box support) has only increased significantly for South Africa.

4.2 Export subsidies

4.2.1 Export subsidies in the AoA

Export subsidies, within the context of the AoA, can be defined as support provided with respect to agricultural products contingent upon their export performance[21]. Notwithstanding the rule under the WTO's Agreement on Subsidies and Countervailing Measures that export subsidies are prohibited, the AoA has specifically allowed the use of certain export subsidies on agricultural products within limits specifically quantified, and then listed in each Member's schedule of commitments. Only 25 WTO Members could subsidise exports in this way. Unlike with the amber box, there are no exceptions to this rule, so export subsidies are permitted solely for products for which subsidy reduction commitments have been made.

Those subsidies listed in the schedule of commitments were subject to reduction commitments in terms of both volume and value. Once either the volume or value limit is reached, the latitude remaining in the other is forfeited.[22] This procedure of listing and reductions has provided a clear indication as to the allowable levels of listed export subsidies.

The AoA provides a list indicating the types of subsidies that must be included in schedules of reduction. The six listed export subsidies are:[23]

- Direct payments contingent on export performance;
- Export of government (non-commercial) stocks at a price below domestic market levels;
- Payments made on exports financed by government action;
- Subsidies in respect of marketing costs (other than widely available export promotion and advisory services) and transport;
- Internal transport at preferential rates for goods destined for export; and
- Subsidy to a product contingent on that product being incorporated into another product, that other product being the export product.

Several provisions of the AoA are aimed at preventing circumvention of export subsidy commitments.[24]

---

[21] See Article 1 of the AoA.

[22] For example, if a country commits to maximum subsidies of $10 on 10 tons of beef and uses the full $10 on the 1st ton exported, then the remaining 9 tons cannot attract any other export subsidies. Conversely, if $1 of subsidy was provided on the first 10 tons of beef exported, then the remaining $9 cannot be attributed to any other tonnage.

[23] See Article 9 of the AoA.

[24] These include inter alia:

-Any export subsidy not listed as part of the 6 subsidies mentioned above shall not be applied in a manner that will circumvent the export reduction commitments of a member state, nor shall non-commercial transactions be used to circumvent such commitments;

-Rules must be developed to discipline the use of export credits, export credit guarantees or insurance programs; and

-Disciplines on food aid e.g. to prevent tied aid (the provision of international food aid is tied directly or indirectly to commercial exports of agricultural products to recipient countries).

For more see article 10 of the AoA.

As part of the package of decisions adopted in Nairobi, Kenya during the 10th WTO Ministerial Conference, the Ministers agreed[25] that all forms of export subsidies are to be eliminated by the end of 2018. More specifically they agreed that:

- developed country WTO Members would eliminate, with immediate effect, any of their remaining scheduled export subsidy entitlement; and
- developing country WTO Members would do the same by the end of 2018, except for subsidies in respect of marketing costs (other than widely available export promotion and advisory services) and support provided to internal transport at preferential rates for goods destined for export subsidies, which would only be eliminated by the end of 2023.

Moreover, disciplines were put in place on the use of export credits, export credit guarantees or insurance programs as well as export state trading enterprises. With respect to international food aid, Members agreed inter alia to ensure that all aid is:

- needs driven;
- in grant form;
- not tied directly or indirectly to commercial exports of agricultural products or other goods or services;
- not linked to the market development objectives of donor Members; and
- not be re-exported in any form, save for certain exceptions.

4.2.2   Use of export subsidies

Table 4 summarises the reported use of subsidies for the selected countries. Apart from India and Switzerland, all countries reported that they did not make use of any export subsidies in their most recent notifications to the WTO. India's export subsidies were focused on sugar and animal products. For the Swiss casein 2016, export subsidies were provided for cattle, horses and processed products. Switzerland has committed to eliminating export subsidies by 2020.

---

[25] See WT/MIN(15)/45 – WT/L/980.

Table 4: Use of export subsidies, as notified by countries to the WTO

Country	WTO notification
EU	According to its latest WTO notification on export subsidy commitments, the EU advised that no export subsidies were paid for the marketing year 2015/2016. Following the 2015 Nairobi Ministerial Decision on Export Competition, the EU indicated that it has abolished its export subsidies. Since July 2013 all export refund rates, including agricultural exports, have remained at zero. The EU further indicates that there remain only a few horizontal export financing programmes run by certain EU member states, where the share of agricultural exports is marginal.
USA	According to its most recent notification on export subsidy commitments, the USA advised that no export subsidies were paid for the marketing year 2015. It should be noted that the USA provided export credit guarantees of roughly US$1.8 billion through the Commodity Credit Corporation in 2015. In its notification the USA notes that "*WTO dispute settlement proceedings resulted in a determination that the Commodity Credit Corporation export credit guarantee programme (GSM-102) conferred an export subsidy with respect to specific agricultural goods during fiscal year 2006 of the United States Government*".
Switzerland	According to its most recent notification on export subsidy commitments for calendar year 2016, Switzerland advised that a total of CHF 94.672 million (CHF 0.072 million on cattle for breeding and horses; and CHF 94.6 million in the form of export drawbacks for processed products) were paid in the form of product specific export subsidies. Following the Nairobi Package adopted during the Tenth Ministerial Conference in December 2015 Switzerland has committed to eliminating export subsidies by 2020 on a range of products, including cattle for breeding, horses, and other processed agricultural products.
Brazil	According to its latest notification on export subsidy commitments for the 2016 calendar year, Brazil advised that no export subsidies were provided.
India	According to its latest notification on export subsidy commitments for the marketing year 2009 – 2010, India noted that it provided *inter alia* specific export subsidies in the amount of USD 87.55 million to 3,411,654 tonnes of sugar; and USD 6.72 million to 61,350 tonnes of 'Animal Products'. The WTO notes that state trading is maintained on exports, in order to ensure better prices of certain agricultural products, including sugar.
China	According to its latest notification on export subsidy commitments for 2013 and 2014, China did not maintain or introduce any export subsidies on agricultural products.
South Africa	According to its latest notification[26] on export subsidy commitments for 2014, South Africa did not maintain or introduce any export subsidies on agricultural products.

Source: EU TPR, Report by the EU, May 2017, WTO document G/AG/N/USA/118 dated 29 September 2017 and issued 29 November 2017, https://www.fas.usda.gov/programs/export-credit-guarantee-program-gsm-102/yearly-activity-reports, WTO document G/AG/N/CHE/82 dated 9 October 2017 and issued 11 October 2017, Switzerland TPR, Report by the WTO Secretariat, September 2017, WTO document G/AG/N/BRA/45 dated 7 February 2018, issued on 14 March 2018, WTO document G/AG/N/IND/9 dated 26 July 2012, issued on 30 July 2012, India TPR, Report by the WTO Secretariat, September 2015, WTO document G/AG/N/BRA/45 dated 8 June 2016, issued on 16 June 2016.

---

[26] See WTO document G/AG/N/ZAF/87 dated 7 February 2018, issued on 14 March 2018 concerning export subsidy commitments for calendar year 2016.

4.3 Market access

4.3.1 Main elements of the market access pillar under the AoA

The market access pillar focuses on disciplining measures and instruments that countries used to restrict import competition in the agricultural sector. In particular, this pillar aims to achieve four outcomes. First, it required that countries replace general quantitative restrictions on agricultural products (such as quotas and import bans) with tariffs, seen as the "tariffication" objective of this pillar.

Second, all countries were required to ensure that tariff bounds were in place for all agricultural products. These "bounds" effectively placed upper limits on the extent to which MFN import tariffs could be raised. Bound rates were established through a reduction of the base tariff rates that existed during the period 1986 – 1988.[27]

Third, a number of non-tariff barriers were prohibited from use. In addition to quantitative import restrictions, this included variable import levies, minimum import prices, discretionary government issuance of import licences, voluntary export restraint agreements and non-tariff measures maintained through state trading enterprises.[28]

For developed countries base rates were required to be reduced by an average of 36% between 1995 and 2001, with a minimum reduction of 15% for each product line. Developing countries were required to reduce their base rates by an average of 24% between 1995 and 2005, with a minimum reduction of 10% for each product line. Least developed countries were not required to undertake any reductions in their base rates.[29]

Finally, Members were required to ensure import access opportunities for those products where restrictions had been "tarrified". That is, at least 5% of domestic consumption had to be opened for imports, by 2000 for developed countries and 2004 for developing countries. This was largely achieved through the use of tariff quotas (also called tariff-rate quotas). These types of quotas imposed substantively lower (than normal MFN) duties for imports up to the quota level.

4.3.2 Tariff liberalisation in agriculture

Figure 9 provides a summary of the average bound and applied MFN agricultural tariff duties for South Africa and its selected trading partners.[30] Average applied MFN duties remain particularly high in Switzerland and India, though they have declined over the last decade. For the EU, there has been a clear decline in average applied MFN duties for agriculture, falling from an average of 15% in 2006 to just over 10% in 2017. The USA has maintained the lowest average applied tariffs on agriculture, roughly 5% over the last decade. Brazil and China's average applied tariffs on agricultural products have been maintained at approximately 10%

---

[27] The base rate was either the prevailing bound rate on 1 September 1986, where these existed, or the calculated tariff equivalent for a non-tariff barrier for the base period 1986 – 1988.

[28] However, a number of safeguard mechanisms can still be used in special circumstances. See Article 4.2 of the AoA.

[29] WTO. 2015. The WTO agreements series, Agriculture. World Trade Organization, Geneva.

[30] Note that the trade-weighted applied preferential tariffs may be lower than the unweighted MFN tariff, if one takes into account the various preferential trade agreements that South Africa and its trading partners have in place.

and 15% respectively. South Africa's average applied MFN tariffs on agricultural products has remained fairly constant at between 8.5% and 9.5%.

Figure 9: Bound and applied agricultural duties

MFN applied duties (simple averages)

Bound vs. applied duties (simple average), 2017
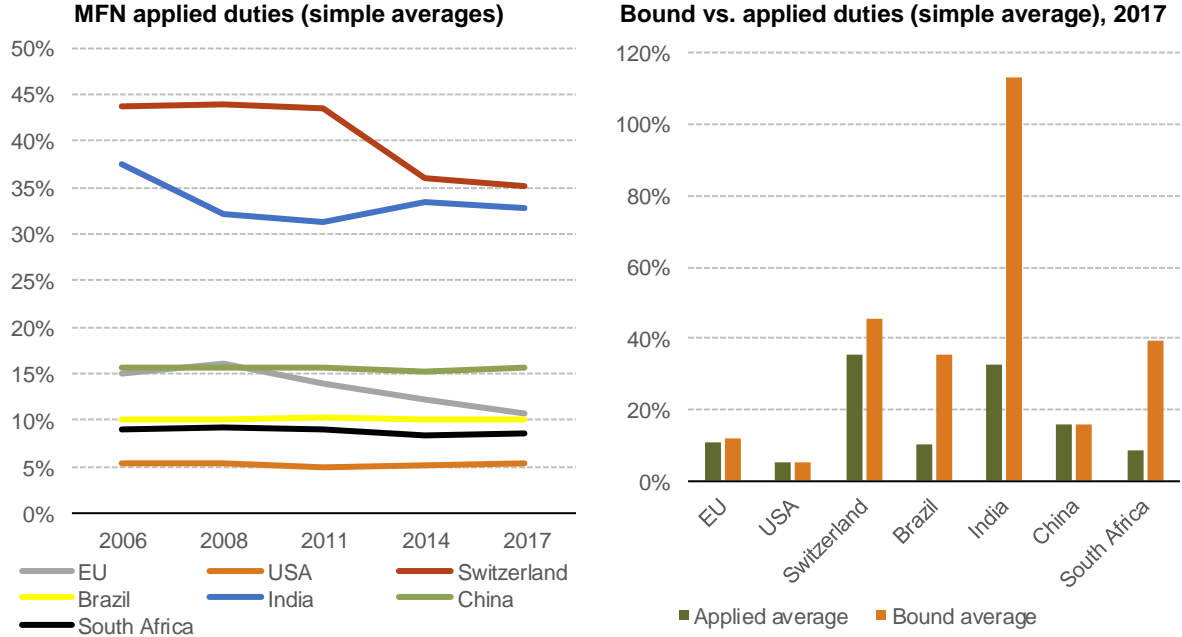
Source: Compiled from WTO Tariff Profiles.
For India, 2006 reflects 2005 data and 2011 reflects 2010 data.

A comparison of bound and applied average rates for agriculture also highlights that the selected developing countries have significantly more room to increase applied tariffs. This is particularly true for India, whose bound average tariffs for agriculture were more than three times the existing applied MFN averages in 2017. South Africa is also seen to have significant room to increase existing average applied MFN duties before reaching the agreed bound rates.

4.4   Summary of agricultural support within WTO framework

Across the three pillars of support, a number of preliminary findings can be highlighted. In terms of domestic support, self-notifications by Members suggest that on a relative (as a percentage of GDP) basis, India provides the highest level of support, primarily through brown box instruments. In absolute terms, for the most recent year available, the USA is seen to have provided the most support.

South Africa's level of domestic support has been far lower in absolute terms, and comparable to the support provided by Brazil, as a proportion of GDP. For the selected developed countries there has also been a clear trend in the increased use of green box support and this is most pronounced for the EU. For developing countries, however, there is no clear trend in a shift between the use of different types of support, though it should also be noted that India and China do not have amber box support facilities.

With the exception of Switzerland and India, none of the selected countries reported using export subsidies. This suggests that the use of export subsidies on agricultural products have largely been eliminated. In terms of market access, India and Switzerland also maintain significantly higher applied tariffs on agricultural products, when compared to the other

countries included in the analysis. By comparison, South Africa's average applied tariffs are among the lowest for countries included in the analysis.

4.5 Policy implications from WTO analysis

The analysis highlights extensive use of both domestic support and market access (import tariffs) instruments by South Africa's trading partners, albeit largely within the levels of support that have been agreed to under the WTO's AoA. In addition, there is some evidence of box shifting toward increased use of green box subsidies by South Africa's trading partners, and in particular by some developed countries. By comparison, South Africa's relative level of support is much lower (and well below its own limits agreed under the AoA) and its own notifications to the WTO suggest that this support has also primarily been provided through green box instruments.

In order to create a level playing field, South Africa could advocate for further reductions of the domestic support limits across all boxes in future WTO negotiating rounds. However, given that some of South Africa's developing country trading partners (and China, in particular) have also reported rising levels of domestic support (particularly in the form of brown box and *de minimis* support measures), lobbying for further overall reductions is not likely to lead to a positive outcome for South Africa.

This suggests that, if domestic agricultural support (in the form of direct payments or market price support) is a priority for South African policymakers, the South African government will need to assess how it can avail more (budgetary) funding in support for the agricultural sector and ensure that the existing support that is provided is efficiently utilised.

5 OECD estimates of support to agriculture

The OECD estimates of agricultural support distinguish between producer, general and consumer-related support for the agricultural sector. A number of indicators are used in this analysis to determine the level of support provided by the selected trading partners to their respective agricultural sectors. The OECD also provides comprehensive data on commodity specific support, and this data is the basis for the review and comparison of support provided to the key product commodities of interest. Appendix F provides a detailed explanation of the indicators used in this analysis. It is, however, worth highlighting a number of high-level indicators that makes up the different components of agriculture support under the OECD's framework:[31]

- Producer Support Estimate (PSE) - representing transfers to producers on an individual basis. These are transfers to farmers to support the production of goods and services, to use certain factors or production, or where a farmer is required to be defined as an eligible farming enterprise to receive the transfer.
- General Services Support Estimate (GSSE) – budgetary transfers support enabling conditions for the primary agricultural sector through the development of private or public services, institutions and infrastructure.
- Consumer Support Estimate (CSE) – budgetary support (and revenue foregone) provided to consumers of agricultural products.

---

[31] See "Introduction to PSE Indicators" and "The PSE Manual".

- Total Support Estimate (TSE): represents the sum of all three components, adjusting for double counting.

These different measures of support are briefly discussed in the following sections.

5.1 Support to agriculture producers

5.1.1 Defining producer support

This section provides a summary of the dedicated support provided to agriculture producers (producer support). While not directly comparable, it is closest in definition to the WTO's AMS. The PSE includes multiple sub-measures of support. These can broadly be categorised as:

- Domestic budget support, referring to budget transfer payments to agricultural producers, either production-linked or not.
- Market price support (MPS), referring to (largely non-budgetary) policy measures that create a price gap between domestic and international (World or "border") prices. Examples of policies that create this gap include import tariffs, tariff rate quotas, licensing requirements, export subsidies, export credits, quantitative restrictions, production quotas, administered prices and intervention purchases. Importantly, the OECD definition of MPS differs from that of the WTO, where MPS references only domestic price policies and not import protection measures.[32]

The OECD further classifies measures of support provided to agricultural producers by considering the conditions subject to which transfers may take place. The OECD is able to classify PSE support measures into seven components by determining (i) the transfer *basis* for support, (ii) whether support is provided on a *current or non-current* (fixed or historical) basis, and (iii) whether or not *production* is required. These seven components are classified by the OECD as follows:[33]

A. Support based on commodity output, including MPS and payments made on output;
B. Payments based on input use;
C. Payments based on current Area/Animal numbers/Receipts/Income ('A/An/R/I'), production required;
D. Payments based on non-current A/An/R/I, with current production of any commodity required;
E. Payments based on non-current A/An/R/I, with current production of any commodity not required but optional;
F. Payments based on non-commodity criteria; and
G. Miscellaneous.

---

[32] See "Introduction to PSE Indicators" and "The PSE Manual".

[33] See "Introduction to PSE Indicators", p.21

The OECD also categorises PSE according to whether policies are aimed at specific commodities. The OECD uses four broad mutually exclusive categories for this:[34]

- Producer Single Commodity Transfers (PSCT) - This represents transfers based on policy measures that are linked to the production of a single commodity (such as "wheat"). A producer must produce the specified commodity in order to benefit from the policy.
- Group Commodity Transfers (GCT) - These transfers arise from policy measures based on the production of any commodity within a defined group of commodities (such as "cereals").
- All Commodity Transfers (ACT) - This is based on transfers due to policy measures where there is no restriction on the type of commodity produced, but does require that a commodity (of the producer's choice) is produced.
- OTP – Transfers from policy measures that do not require any commodity production at all.

Table 5 summarises the classification and categorisation of support measures included in the OECD PSE indicator.

Table 5: Classification and categorisation of support included in the OECD's PSE

		PSCT	GCT	ACT	OTP
A1. Market Price Support		X			
Domestic budget support / budgetary transfers to producers	A2. Payments based on output	X			
	B. Payments based on input use	X	X	X	
	C. Payments based on current A/An/R/I, production required	X	X	X	
	D. Pay. based on non-current A/AN/R/I, production required	X	X	X	
	E. Pay. based on non-current A/AN/R/I, production not required				X
	F. Payments based on non-commodity criteria				X
	G. Miscellaneous payments				X

Source: Based on OECD PSE Manual.

5.1.2 Overall estimates of support for individual producers

Figure 10 provides a summary of the estimated support to producers, using the OECD's PSE as a percentage of gross farm receipts (GFR).[35]

---

[34] See "Introduction to PSE Indicators". These four categories are mutually exclusive in the sense that transfers included in one category are not included in another.

[35] Conceptually, gross farm receipts can be thought of as overall farm turnover including tax subsidies.

Figure 10: PSE, % of GFR
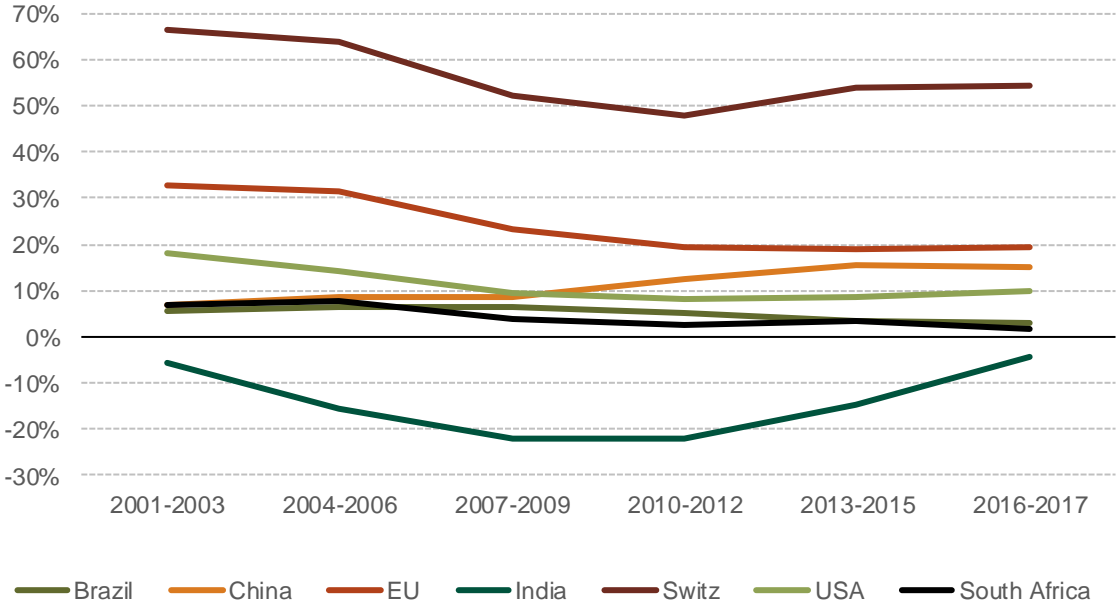
For the countries shown above, with the exception of India, South Africa had the lowest relative level of support and this has declined over time. For the 2016-2017 period, South Africa's PSE (as a % of GFR) was under 2%. Switzerland had the highest level of support, with PSE in excess of 50% of GFR in 2016-2017. For all countries, relative levels of support have declined over time, the exception to this being China. For India, the OECD estimates that India's support to producers was negative over the entire review period, largely due to negative MPS policies (discussed further in the following section).

5.1.3   Support measures within PSE

Table 6 and Table 7 provide a summary of the type of producer support classified according to the different support components (as a percentage of GFR and PSE respectively). During 2016, Brazil, China and South Africa provided more support to individual farmers in categories A and B (shown in Table 6 and Table 7 as MPS, PO and PI) (and hence theoretically providing stronger incentives for production) compared to the selected developed country trading partners. South Africa provided roughly 94% of support within those two categories (with Brazil at 98% and China at 84%).

Table 6: Summary of PSE by component, 2016 (% of GFR)

| | MPS | Domestic budget support / budgetary transfers to producers | | | | | Total PSE |
		PO	PI	PC+PHR	OTP	Total	
Brazil	1.45%	0.14%	1.91%	0.08%	0.00%	**2.1%**	**3.6%**
China	11.70%	0.30%	1.63%	1.98%	0.58%	**4.5%**	**16.2%**
EU	4.62%	0.12%	2.45%	5.23%	8.32%	**16.1%**	**20.7%**
India	-11.36%	0.00%	7.01%	0.00%	0.01%	**7.0%**	**-4.3%**
Switzerland	30.27%	2.38%	1.14%	16.01%	8.28%	**27.8%**	**58.1%**
USA	2.68%	0.07%	2.17%	2.28%	2.35%	**6.9%**	**9.6%**
South Africa	0.77%	0.00%	0.98%	0.11%	0.00%	**1.1%**	**1.9%**

Source: "The PSE database"(2018)
MPS = Market Price Support, PO = Payments based on output, PI = Payments based on input use, PC = Payments based on current A/An/R/I, production required, PHR = Payments based on non-current A/An/R/I, production required, OTP = Other Transfers to Producers (OTP).

All of the selected trading partners as well as South Africa have positive MPS percentages indicating implicit transfers from the consumer to the producers due to policy interventions, creating a positive gap between domestic prices and border (international) prices. For many countries, including South Africa, this is a large component of producer support.

For India, the MPS is negative. This is a result of policy measures implemented in India that have resulted in observed domestic prices for agricultural products in India being lower than international reference prices. This is largely due to minimum support prices (applied through India's Essential Commodities Act) being set below international prices, as well as the extensive use of "export-impeding" measures (export bans, restrictions and taxes).

As a result of this negative MPS, payments based on variable input use, mainly subsidising fertilisers, electricity and irrigation water, are somewhat masked in the overall PSE measure. The negative MPS also implies that the domestic price-reducing effect of price policies exceeds the domestic price-raising effect of import tariff policies, which is likely to be large, given India's high applied tariffs on agricultural goods.[36]

---

[36] For more on India's MPS see "OECD India 2018 report".

Table 7: Summary of PSE by component, 2016 (% of PSE)

	MPS	PO	PI	PC+PHR	OTP
Brazil	40.6%	3.8%	53.3%	2.3%	0.0%
China	72.3%	1.9%	10.1%	12.2%	3.6%
EU	22.3%	0.6%	11.8%	25.2%	40.1%
India	-261.6%	0.0%	161.4%	0.0%	0.2%
Switzerland	52.1%	4.1%	2.0%	27.6%	14.3%
USA	28.0%	0.8%	22.7%	23.9%	24.6%
South Africa	41.3%	0.0%	52.6%	6.1%	0.0%

Source: "The PSE database"(2018)
MPS = Market Price Support, PO = Payments based on output, PI = Payments based on input use, PC = Payments based on current A/An/R/I, production required, PHR = Payments based on non-current A/An/R/I, production required, OTP = Other Transfers to Producers (OTP).

For the EU, Switzerland and the USA, payments in categories C and D (PC + PHR) and other transfers to producers (OTP- encapsulated by E, F, G), made up a comparatively larger share of producer support. This is particularly true for the EU, where these support policies combined made up close to two-thirds of overall producer support in 2016.

The contribution of the different components of PSE over time is provided in Appendix H. South Africa has clearly reduced producer support through MPS over time, while the share of input-based payment policies has increased. The trend in the reduction in the use of price support policies (reflected in lower shares of MPS) is also seen, to varying degrees, in the EU, Switzerland and the USA.

Conversely, China and Brazil appear to have increased the use of price support mechanisms (relative to other forms of producer support) between 2001 and 2017. For the EU, there is also a clear trend in the increased share of other transfers to producers (OTP) between 2001 and 2017. This reflects the EU's broad move away from production linked support.

5.1.4 Categories of producer support

The OECD notes that there is a declining level of influence on production as one moves down the categories of producer. PSCT policy measures are likely to have the most influence on production, and OTP the least. Similarly, from a policy perspective, the OECD notes that the lower the share of PSCT in the PSE, "the more flexibility farmers potentially have in terms of what they can produce in order to be entitled to support, and hence the more likely they are to respond to relative market prices for commodities rather than policy influences when making their production decisions".[37]

Table 8 and Table 9 provide a summary of PSE 'commodity specificity' support during 2016 (expressed as a share of GFR and PSE respectively) for all the selected partner countries as

---

[37] See "Introduction to PSE Indicators", p.15.

well as for South Africa. The EU provides more flexibility than South Africa or any of the other selected trading partners to its producers in the production choices they make: 40% of all EU PSE support does not require any production from individual farmers. The EU is followed by the USA (25%) and Switzerland (14%). Interestingly, Brazil, China and South Africa provide almost no PSE support under OTP falling behind the level of flexibility provided by their developed country counterparts.

Table 8: Summary of PSE by commodity focus, 2016 (% of GFR)

	PSCT	GCT	ACT	OTP
Brazil	2.50%	0.08%	1.00%	0.00%
China	12.35%	2.01%	1.26%	0.58%
EU	5.84%	0.80%	5.79%	8.32%
India	-11.35%	4.29%	2.71%	0.01%
Switzerland	33.02%	7.92%	8.86%	8.28%
USA	4.44%	0.66%	2.11%	2.35%
South Africa	0.77%	0.00%	1.09%	0.00%

Source: "The PSE database"(2018)
PSCT = Producer Single Commodity Transfers, GCT = Group Commodity Transfers, ACT = All Commodity Transfers, OTP = Other Transfers to Producers (OTP).

Each of these developing countries provides high levels of PSE support concentrated in PSCT policy measures, especially Brazil (70%) and China (75%). If one adds the three commodity specificity components PSCT, GCT and ACT together, Brazil (with 100%), China (with 96%) and South Africa (99%) have the highest level of support conditional upon production of a commodity. For India, negative price support policies for specific commodities (reflected in the negative PSCT) is offset to some extent by general commodity support payments.

Table 9: Summary of PSE by commodity focus, 2016 (% of PSE)

	PSCT	GCT	ACT	OTP
Brazil	70%	2%	28%	0%
China	76%	12%	8%	4%
EU	28%	4%	28%	40%
India	-262%	99%	63%	0%
Switzerland	57%	14%	15%	14%
USA	46%	7%	22%	25%
South Africa	41%	0%	58%	0%

Source: "The PSE database"(2018)
PSCT = Producer Single Commodity Transfers, GCT = Group Commodity Transfers, ACT = All Commodity Transfers, OTP = Other Transfers to Producers (OTP).

These figures correlate with Table 7 in the previous section where most of the support provided by these developing countries falls within PSE Categories A – D. Having said this, the figures show that South Africa provides more flexibility compared to Brazil and China. It has the highest level of PSE support of all countries assessed in this analysis under ACT (58%) and it has the lowest figures of the three developing countries under PSCT and GCT.

These measures of support linked to production can have a higher or lower trade distortionary impacts, depending on the basis and conditions upon which they are granted. For example, as noted elsewhere in this analysis, the trade distortionary impact of production-linked support can be reduced by putting in place limitations on production (i.e. payments under the WTO blue box). The developing countries assessed in this analysis provide a relatively higher proportion of production-linked support compared to their developed country counterparts.

5.1.5 Commodity-specific support

In assessing the level of support for commodities of interest in this study, the analysis has relied on the OECD's PSCT indicator. As previously noted, this represents the sum of direct budgetary transfers to producers (for specific commodities) and indirect transfers from consumers to producers (primarily through price support policies).

An important caveat, however, is that the PSCT measure provides an indication of the dedicated support for each commodity, but may not provide the total support allocated (or utilised by producers) for each commodity. This is because, as highlighted in the previous section, a producer may utilise specific commodity support in production, but may also utilise general commodity (and non-commodity related) support in producing that commodity. In a sense, therefore, the PSCT represents the minimum level of dedicated support for specific commodities i.e. the PSCT indicator represents a conservative assessment of support to a specific commodity.

The OECD's most recent report highlights some broad trends in commodity specific support. Price support policies (reflected in MPS) remain, in general, the largest component of commodity specific support for the countries analysed here. This remains true, even for the EU, where the share of price support in overall producer support has declined over time. For countries such as China, the share of output-based payments has been consistently growing over the last decade, reflecting an increased direct subsidisation by the government for certain commodities, including cotton, soybeans and maize.[38]

Between 2015 and 2017, the eight commodities that are the focus of this study were also among the most supported by countries included in the analysis, with transfers to producers making up a significant proportion of output. In the EU, beef and veal and poultry had the highest relative levels of commodity support. In the US, sugar, milk and cotton were among the products with the most support. In Switzerland, poultry and eggs had the highest share of SCT in commodity gross farm receipts. In Brazil, wheat, cotton and maize were among the commodities with the highest levels of support. For South Africa, there has been specific support for sugar.[39]

---

[38] See OECD, 2018, Agricultural Policy Monitoring and Evaluation 2018.
[39] See OECD, 2018, Agricultural Policy Monitoring and Evaluation 2018.

A summary of PSCT between 2015 and 2017 is provided in Figure 11 and Figure 12, showing PSCT as a % of GFR by country and commodity for comparative purposes. Additional information for the period 2000 to 2016 (PSCT US$ / tonne and as % of GFR) is provided (for countries where data is available) in Appendix G.

Figure 11 reflects the OECD's own analysis. For countries such as South Africa, the USA China and Switzerland, refined sugar has a much higher level of support, when compared to other products produced in these countries.

Figure 11: PSCT as % of GFR, by country, average 2015 – 2017
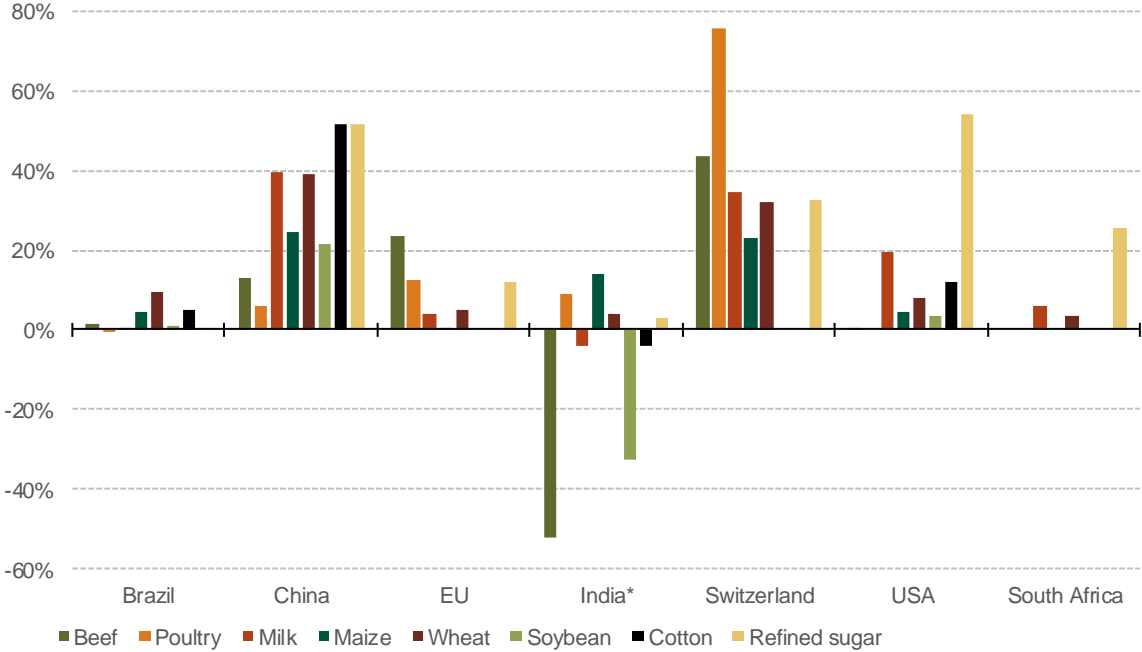
Source: Compiled from "The PSE database"(2018)
*Data for India reflects average for 2015-16.
Data not available for: Switzerland (soybeans and cotton), EU (cotton), South Africa (soybeans and cotton). For all other commodities, the absence of a bar graph reflects 0%.

In China, the share of commodity specific support was in excess of 50% of GFR for cotton and sugar, while it was close to 40% for milk and wheat. In Brazil, commodity specific support is generally low for the identified commodities, but close to 10% for wheat.

For Switzerland, there are high levels of support for poultry in particular, where PSCT as a % of GFR was in excess of 75%. In the EU, beef is particularly noteworthy in terms of relative support received, while for the USA, significant support was provided to milk and sugar producers.

Comparing support for commodities across countries, it is clear that there is particularly strong commodity support by certain countries, shown in Figure 12. Switzerland, in particular, had the highest levels of support (among the countries of interest) for beef and poultry, and the second highest for milk, maize and wheat. China had the highest levels of support for milk, maize, wheat, soybeans and cotton, and the second highest for refined sugar. The USA had the highest level of support for refined sugar, and second highest for cotton. By contrast, the levels of support provided by South Africa and Brazil are, in general, far lower, when compared to other countries.

Figure 12: PSCT as % of GFR, by commodity, average 2015 – 2017
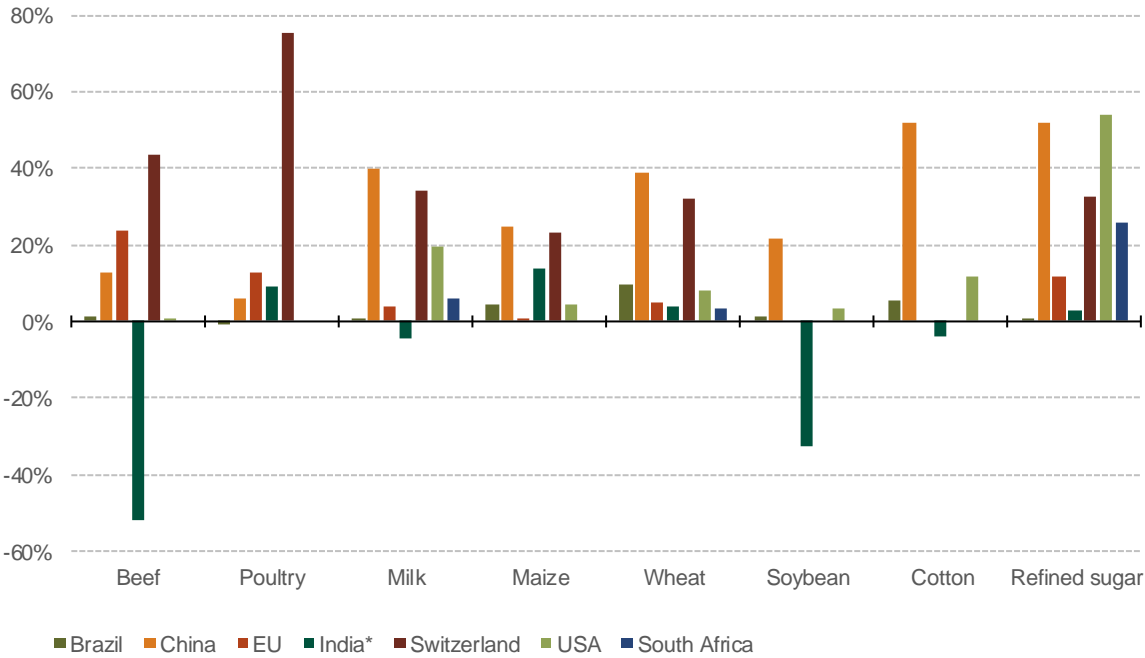
Source: Source: Compiled from "The PSE database"(2018)
*Data for India reflects average for 2015-16.
Data not available for: Switzerland (soybeans and cotton), EU (cotton), South Africa (soybeans and cotton). For all other
commodities, the absence of a bar graph reflects 0%.

The OECD's recent report on India's agricultural policies notes that commodity specific support was relatively low in India, and negative for a number of products. As a proportion of GFR, commodity specific support in India was highest for poultry, maize and wheat. By contrast, commodity specific support was negative for beef, milk, soybeans and cotton. The OECD indicates that this is largely due to policies that have served to suppress domestic prices below global / border prices (resulting in a negative MPS), while there are limited direct budget transfers for commodity specific output. However, the OECD has noted a pattern of increasing price support for domestic producers over the years, suggesting that commodity specific support is likely to increase in the future.[40]

5.2 General support for the agriculture sector

In addition to support directed specifically toward individual agricultural producers, the OECD measures the level of support provided to the agricultural sector in general. Specifically, it defines general services support (the "GSSE" indicator) as value of gross transfers due to policy measures that create enabling conditions for the primary agricultural sector. It includes policies where primary agriculture is the main beneficiary, but does not include any payments to individual producers. GSSE transfers do not directly alter producer receipts or costs, or consumption expenditures.[41]

---

[40] "OECD India 2018 report".

[41] See "Introduction to PSE Indicators", p. 19.

Six categories of general services are identified each with its own sub-categories, defined in more detail in Appendix F. The six categories are:

H. Agricultural knowledge and innovation system;
I. Food inspection and control;
J. Development and maintenance of rural infrastructure;
K. Marketing and promotion;
L. Cost of public stockholding; and
M. Miscellaneous.

Table 10 provides a breakdown of the composition of GSSE support by each of the selected trading partners as well as South Africa during 2016.

Table 10: 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.

Compared to South Africa, Brazil allocated double the amount of support on agricultural knowledge and innovation as a percentage of Total GSSE in 2016. Spending under this category of services includes "financing of R&D activities related to agriculture as well as transfer of agricultural knowledge through agricultural vocational schools, agricultural programs in high-level education and generic training and advice to farmers (e.g. accounting rules and application of pesticides)" etc.[42]. All of South Africa's trading partners, with the exception of the USA, have seen a trend of increasing the general support allocated to these types of measures.

In terms of measures focusing on inspection and control in 2016, South Africa was allocating proportionally more resources in support of food inspection and control than any of the other selected trading partners and signals policy priority for the South African Government. Services included in this category are "product safety and inspection at first level of processing and

---

[42] See "Introduction to PSE Indicators", p.23.

border inspection for exported commodities; pest and disease control of agricultural inputs and outputs – at primary agricultural level - and funding of veterinary and phytosanitary services as well as control activities and certification of industrial inputs used in agriculture (e.g. machinery, fertilisers and pesticides etc)"[43]. Historically, South Africa and USA appear to be the two countries where a large portion of general support has focused on this area.

Most countries, with the exception of Switzerland, have seen a substantial level of general support dedicated to measures focusing on the development and maintenance of infrastructure. However, on a proportional basis, India's support (as a % of general support) was by far the highest, amounting to more than 75% of total general support. In 2016, 36% of South Africa's general support was focused in this area. Expenditure under this category "is generally allocated towards public investments in hydrological infrastructure (irrigation and drainage networks), storage facilities and other market infrastructure facilities related to handling and marketing primary agricultural products (e.g. silos, harbour facilities, wholesale markets, futures markets etc.), building and maintaining institutional infrastructure *e.g.* seed species registries, development of rural finance networks and support for farm organisations. It also includes support for farm restructuring *e.g.* the financing of entry, exit or diversification (outside agriculture) strategies"[44].

In terms of support in the other areas (marketing and promotion, public stockholding and miscellaneous support), China was proportionally the biggest spender under these categories. Almost all of the 46% of its GSSE support was allocated towards costs associated with public stockholding, which include the cost of storage, depreciation and disposal of public storage of agricultural products[45]. The entirety of South Africa's support during 2016 was directed towards collective schemes for processing and marketing of mainly primary agricultural products – all designed to improve the marketing environment for agriculture.

5.3   Total support for agriculture under the OECD framework

The OECD's 2018 Agricultural Policy Monitoring and Evaluation report highlights a number of broad findings related to agricultural support. It estimates that in total, between 2015 and 2017, an average of US$ 620 billion in support was provided to the agricultural sector by the 51 countries monitored by the OECD. Of this, around 78% was transferred to individual producers. It notes also that the overall burden of this agricultural support to these economies has nevertheless declined over time, falling from 1.3% between 1995 and 1997 to 0.7% between 2015 and 2017.

As highlighted previously, total support to the agricultural sector is provided through policies that support producers, the agricultural sector in general and consumers of agricultural products. The composition of total support is briefly discussed in the following sections.

---

[43] See "Introduction to PSE Indicators", pp.23-24.

[44] See "Introduction to PSE Indicators", p.24.

[45] See "Introduction to PSE Indicators", p. 24.

5.3.1 Composition of total support

The OECD's TSE for agriculture includes support policies that target both consumers and producers. Figure 13 shows the composition of the TSE with reference to the share of PSE, TCT and GSSE for 2016. All of the selected trading partners, except for the USA and India, favoured policy measures that focused on transfers to individual farmers (i.e. PSE measures), with these policies typically making up in excess of 50% of their respective TSEs.

This was also true for South Africa during 2016, with a PSE share of TSE of 53%. For the EU and Switzerland, the share of PSE in TSE sits at approximately 90%. In 2016, India's share of PSE (as a % of TSE) was highly negative and this was largely due to large negative transfers in MPS.[46]

Figure 13: Producer, general and consumer budget support in total support

	Brazil	China	EU	India	Switzerland	USA	South Africa
■ TCT	11%	0%	1%	138%	0%	50%	0%
■ GSSE	26%	14%	10%	78%	9%	10%	47%
■ PSE	62%	86%	90%	-116%	91%	39%	53%
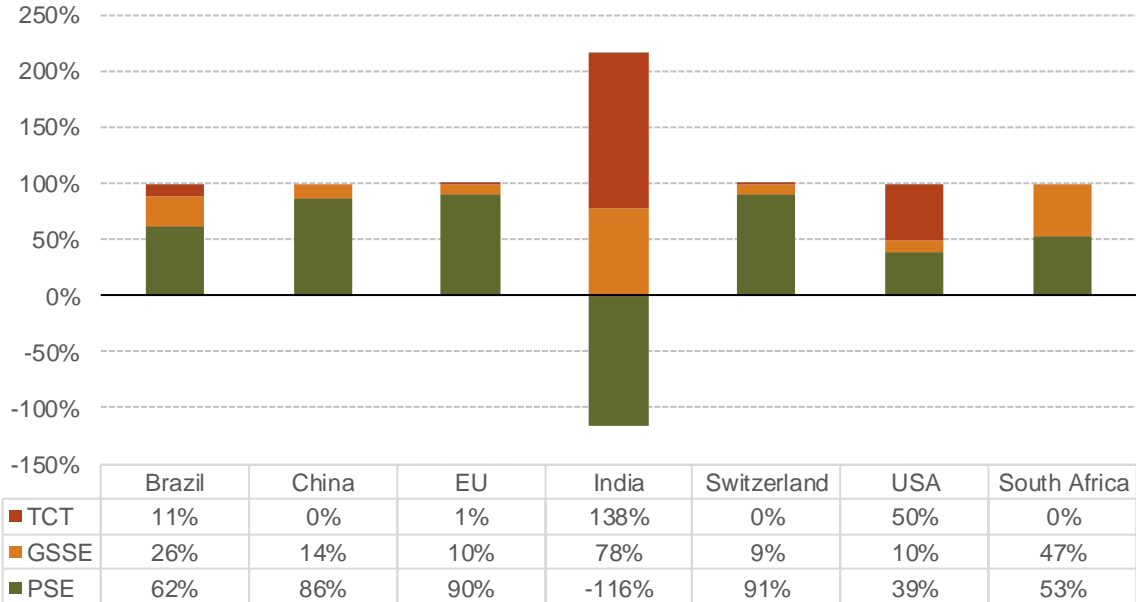
Source: Compiled from "The PSE database"(2018)
* Data for India is only available up to 2016.

In 2016, India's share of GSSE in TSE was the highest of all the selected trading partners, though this is somewhat offset by the large negative support provided directly to producers (as indicated by a negative PSE).

Figure 13 shows that of all the selected trading partners (as well as South Africa itself), the USA, Brazil and India are the only countries providing any meaningful support to consumers. During 2016, transfers to consumers from the taxpayer made up 50% of the TSE for the USA and 11% of the TSE of Brazil. In India, large transfers to consumers take place through food subsidies. This, according to the OECD, enables "large segments of the population to purchase food grains at prices that are even below the already low domestic market prices".[47]

---

[46] See "OECD India 2018 report". A negative MPS reflects a cost to the producer resulting from policy interventions that suppress the domestic market price below the external reference price (border price).

[47] See "OECD India 2018 report", p.212.

Consumer support provided by South Africa, China, Switzerland and the EU during the same year are negligible ranging between 0% and 1% of TSE.[48]

In terms of trends of the type of support provided over time, (figures provided in Appendix H), there are clear discernible trends for four countries. For the USA, total support for agriculture is increasingly made up of taxpayer transfers to consumers (and decreasing shares of support for producers). In China, producer support has increasingly made up a large share of total support, as opposed to general support for agriculture. In Brazil, the share of general support (as a proportion of total support) has decreased over time, while it has increased for Switzerland.

5.3.2   Relative levels of total support

As noted before, the TSE is the sum of all support provided under policies aimed at individual agricultural producers (i.e. 'PSE'); aimed at consumers of agricultural products (i.e. 'CSE') and those policies aimed at agricultural producers in the collective (i.e. 'GSSE'). TSE as a % of gross domestic product (GDP) is shown in Figure 14. This illustrates the overall cost to the economy of total support to agricultural producers.

Figure 14: TSE, % of GDP (average for years)
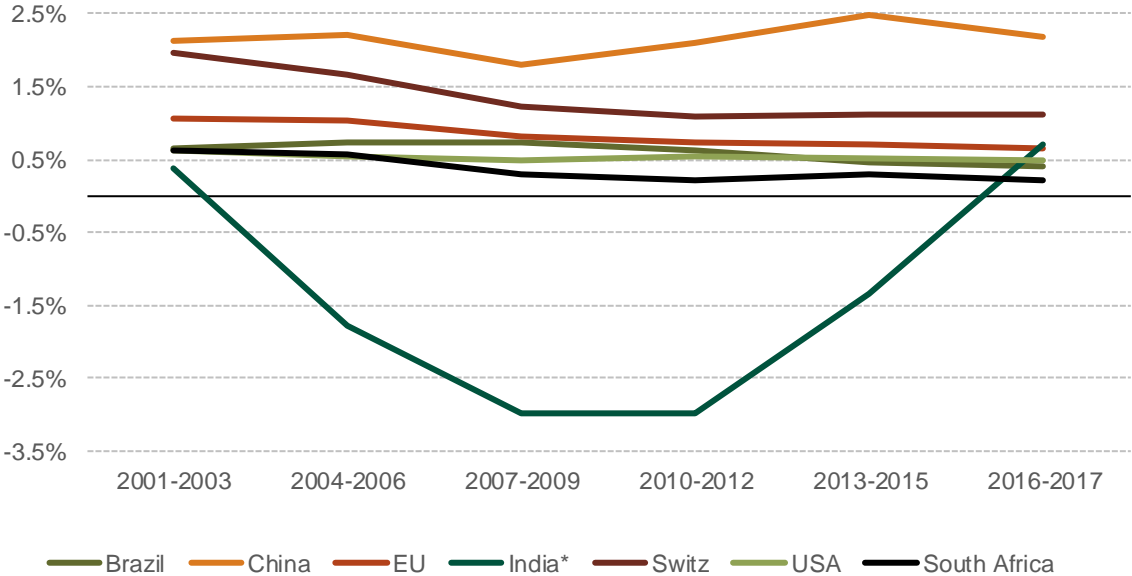
Source: Compiled from "The PSE database"(2018)
* Data for India is only available up to 2016.

The % TSE for all countries in Figure 14 fell between 2001 and 2017, the exception to this being China and India. South Africa has reduced its %TSE from roughly 0.5% of GDP in 2005 to 0.2% of GDP in 2017. Of all the countries assessed, the total estimated cost to the economy of supportive policies favouring agriculture is the lowest for South Africa. In 2017, China's total

---

[48] One caveat in this analysis is that the OECD's estimate of consumer support for South Africa does not include the Department of Basic Education's National School Nutrition Programme. South Africa's most recent domestic support notification to the WTO included this programme as part of its 'green box' support measures. South Africa's notification indicated that, for the 2014 reporting period, this programme provided just under R5.5 billion of domestic food aid support. The OECD indicator may therefore understate South Africa's level of consumer support, but is not likely to significantly change the overall analysis.

support for agriculture (as a % of GDP) was the largest of all countries assessed.[49] India's TSE was estimated to be 0.7% of GDP in 2016, more than three times that of South Africa's, though it has historically been negative (due to policies that have depressed domestic agricultural prices in the Indian economy).

5.4   Summary of OECD support analysis

The review of the OECD's estimates of agricultural support for South Africa's selected trading partners and commodities identifies a number of key findings. In terms of total agricultural support (which includes support to consumers and general support to the agriculture sector), China's total support for agriculture (as a % of GDP) was the largest of all countries assessed, while South Africa's level of total support for agriculture is among the lowest.

With the exception of the USA and India, all of the selected trading partners implemented policy measures that focused on transfers to individual farmers with these policies typically making up in excess of 50% of their total agricultural support.

In terms of support for agricultural producers, South Africa had the lowest relative level of support and this low level of support has further receded over time. Producer support for South Africa was estimated to be under 2% of agricultural production in 2017. Switzerland, on the other hand, had the highest level of support for agricultural producers, estimated to be in excess of 50% of agricultural production in 2017.

The data also suggests that the EU provides more flexibility than South Africa or any of the other selected trading partners to its agricultural producers in the production choices they make. This is reflected in the fact that approximately 40% of all EU support to agricultural producers does not require any production from individual farmers.

Comparing support for commodities across countries, Switzerland, in particular, had the highest levels of support for beef and poultry, and the second highest for milk, maize and wheat. China had the highest levels of support for milk, maize, wheat, soybeans and cotton, and the second highest for refined sugar. The USA had the highest level of support for refined sugar, and second highest for cotton. By contrast, the levels of support provided by South Africa and Brazil are, in general, far lower, when compared to other countries. However, a large proportion of this commodity support is through price support policies, rather than direct budgetary transfers.

5.5   Policy implications from OECD estimates analysis

The analysis of OECD support estimates largely confirm the initial findings from the review of WTO notifications. South Africa's comparative level of support provided to the agriculture sector (either in absolute or relative terms) is much lower than that provided by its selected trading partners. From a policy perspective this suggests that South Africa should increase the level of support provided to the agriculture sector (where this sector is deemed a policy priority) and determine how existing and new support could best be provided. The analysis of OECD support estimates suggest that both developed and developing countries (with the exception

---

[49] The OECD's 2018 Agricultural Policy Monitoring and Evaluation report suggests that China's level of support has increased substantially since the early 1990s, from 1.4% between 1995 and 1997 to 2.3% between 2015 and 2017.

of China) are increasingly moving toward the provision of general support for the agriculture sector (rather than support that is linked to production), with increasing focus on support that provides an enabling and production-enhancing environment. This includes greater support for areas such as R&D and infrastructure within the agriculture sector.

Further, for developed countries there has been a shift away from (extensive) use of market price support measures though some countries, such as Switzerland, continue to make extensive use of these instruments. Developing countries, particularly China, have generally seen increased use of market price support instruments. Given that South Africa has significant water (i.e. policy space) between its MFN and bound duty rates, the increased use of import tariff instruments therefore also remains a policy option. However, the use of tariff instruments requires a clear analysis of the benefits and costs to the relevant agriculture value chain as a whole, and the economy in general.

6 General equilibrium impact of agricultural producer support

In order to estimate the economy-wide impact of agricultural subsidy policies implemented by South Africa's selected trading partners, the study utilises the GTAP database and the standard GTAP CGE model. The GTAP trade database is unique in that it is one of the most comprehensive databases reconciling global exports and imports with country-level production dynamics. In addition to trade flow data, the database contains information on protection, household consumption, government consumption, investment, input-output relationships, and domestic direct and indirect tax rates. Finally, to facilitate trade modelling, the GTAP data provides econometrically based estimates of trade elasticities.

Version 9A of the GTAP database corresponds to the global economy in 2011. The database divides the world into 140 regions and 57 sectors, and contains information on bilateral trade flows for all commodities between all 140 regions. While not all of the selected commodity products are available at a disaggregated level, the GTAP database nevertheless provides the best combination of sectoral and cross-country data to be utilised for this exercise.

6.1 GTAP database and OECD estimates of agricultural support

Usefully, the GTAP database already includes the OECD estimates of producer support (PSE), though with some modification and adjustments to ensure that this data is aligned with production, trade and other protection data within the database.[50] The different components of the OECD's PSE payments are allocated to specific sectors and factors of production, based on their intended use and expected impact. However, not all components of the OECD's PSE are directly captured in this database. The extent to which the PSE estimates are included in the GTAP database is summarised in Table 11.

---

[50] Note that because India was historically not included in the OECD's agricultural support database, estimates for India are not included in the GTAP database. For this analysis, estimates of OECD agricultural support for India, released in September 2018 by the OECD, were manually included in the GTAP database.

Table 11: OECD PSE estimates and GTAP database

How PSE payments are distributed across GTAP factors		Factors that PSE is allocated to in GTAP				
		Output	Input	Land	Labour	Capital
A1. Market Price Support						
Domestic support	A2. Payments based on output	X				
	B. Payments based on input use		X			X
	C. Payments based on current A/An/R/I, prod. reqd			X	X	X
	D. Pay. based on non-current A/AN/R/I, prod. reqd			X	X	X
	E. Pay. based on non-current A/AN/R/I, prod. not reqd	X	X	X		X
	F. Payments based on non-commodity criteria					
	G. Miscellaneous					

Source:
Boulanger, P., Philippidis, G. & Jensen, H., 2015. EU agricultural domestic support in GTAP: a proposal for an alternative approach. Melbourne, Australia, Purdue University.
Huang, H., 2012. Chapter 10.A Agricultural Domestic Support, GTAP 8. In: B. Narayanan, A. Aguiar & R. McDougall, eds. Global Trade, Assistance, and Production: The GTAP 8 Data Base. Purdue University.

Specific PSE exclusions from the GTAP database are MPS, payments based on non-commodity criteria and other miscellaneous payments. Because the GTAP database already includes import tariffs, export subsidies and other protection measures that create a "wedge" between domestic and global market (border) prices, the OECD's MPS estimates are not included in order to avoid double counting of the effect these types of measures.

The two payment types are excluded from the GTAP database because these two payments are not linked to output or commodity criteria, and are therefore expected to have a minimal impact on agriculture producer production and factor allocation decisions. The share of PSE of these two payment elements is relatively small, as reflected in Table 12.

Table 12: Share of PSE payment elements excluded from OECD database

Share of PSE, 2011	F. Payments based on non-commodity criteria	G. Miscellaneous payments
Brazil	0.0%	0.0%
China	2.7%	0.0%
EU	2.1%	0.4%
India	0.0%	0.0%
Switzerland	3.2%	3.3%
USA	8.2%	0.0%
South Africa	0.0%	0.0%

Source: DNA based on OECD data.

6.2 Simulating the impact of support

The GTAP database is aggregated in order to separately show South Africa, the rest of SACU member states and South Africa's trading partners of interest: Brazil, China, India, Switzerland, the EU and USA. The 57 sectors are consolidated into 20 sectors, with specific emphasis on South Africa's primary and downstream agriculture sectors. The sectoral mapping is provided in Appendix I.

In order to understand the impact of agricultural support on South African producers, the analysis undertakes a counterfactual approach. That is, the impact of agricultural support is assessed by determining how trade and production dynamics would change if these distortions were removed in the selected countries of interest.

The broad definition of support includes both domestic budget payments ("domestic producer support") and policies that create a differential between domestic and global prices ("market price support"). To show the impact of these different policies, the general equilibrium analysis undertakes separate scenarios to simulate the impact of each of these broad policy tools. The "domestic producer support" scenario removes producer support payments as captured by GTAP's inclusion of OECD PSE estimates. The "trade policy" scenario aims to capture the MPS effect by removing import tariffs and export subsidies.[51]

Furthermore, the analysis distinguishes between the impact of *only* South Africa's selected trading partners removing these elements of support and *both* South Africa and its selected trading partners removing this support. In total, four simulations are undertaken, as summarised in Table 13.

Table 13: Simulations undertaken for general equilibrium analysis

Scenario	Simulation
A. Domestic producer support – trading partners	Agricultural support payments are removed for South Africa's selected trading partners only. That is, South Africa's trading partners remove all policies where budget transfers to agricultural producers take place.
B. Domestic producer support – SA and trading partners	Agricultural support payments removed for South Africa and its trading partners. That is, both South Africa and its selected trading partners remove all policies where budget transfers to agricultural producers take place.
C. Trade policy – trading partners	Import tariffs and export subsidies are removed for South Africa's selected trading partners, to illustrate the impact of MPS elements of agricultural support. 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.

---

[51] Where countries implement significant domestic price measures (such as administered prices, market price boards etc.) the "market price support" effect may be under- or over-stated, since only import tariffs and export subsidies are used as the indicator for such support.

Scenario	Simulation
D. Trade policy – SA and trading partners	Import tariffs and export subsidies removed for South Africa and its trading partners, to illustrate the impact of MPS elements of agricultural support. 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.

The standard comparative static model is used, with the exception that unskilled labour wages are assumed to be fixed (or "sticky") for South Africa and the rest of SACU member states. This allows for the introduction of unemployment (an excess supply of unskilled labour) in the model.

6.3   Results from the simulations

The results from the simulations of the different scenarios are shown in the following tables and figures. Additional results (showing the percentage change against the baseline) are provided in Appendix I, including aggregate sectoral price changes for South Africa. Figure 15 shows how the removal of either domestic support policies (payments for agricultural support) or trade policy support impacts on the volume of exports. The results provided show both the overall impact of agricultural support and the sectoral impact of this support. The sectoral results provide an assessment of the impact across South Africa's food and non-food agro-value chains, showing the impact on primary agriculture, downstream (agro-processing) agriculture and non-agricultural (other manufacturing) sectors.

6.3.1   Overall trade impact

The overall estimated impact of these policies on the volume of exports is seen to be small for all countries. The impact of domestic agricultural support policies is highest for India and Switzerland. For these countries, the removal of domestic support by them and the other selected trading partners results in an increase in export volumes of just over 0.2%.

Figure 15: % change in volume of exports, CGE simulations
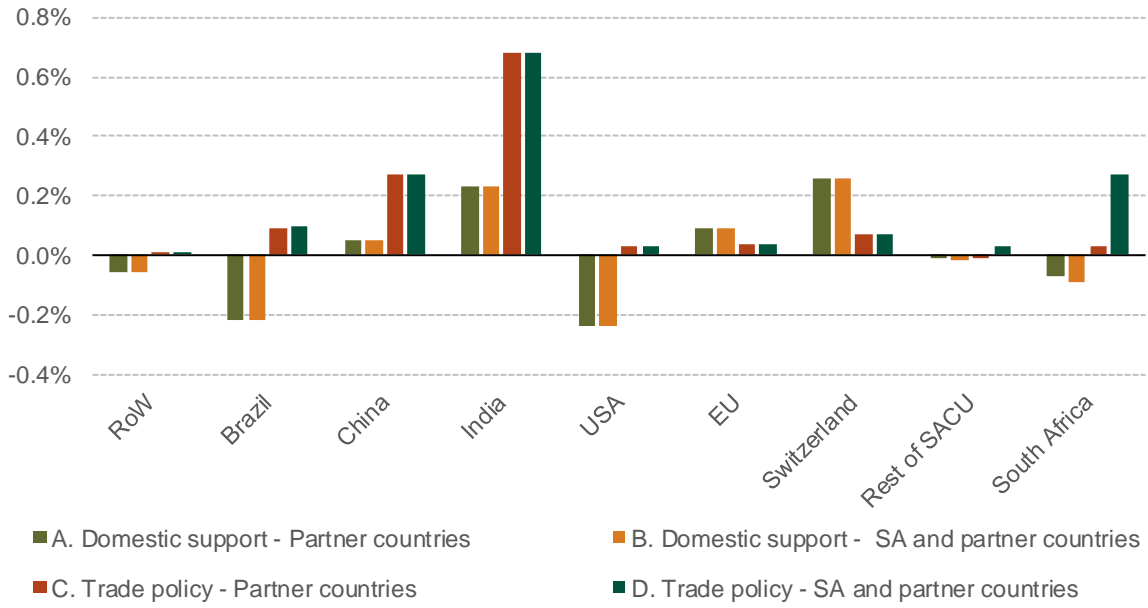
Source: Based on results of GTAP model simulations.

For Brazil, India and China, the removal of trade policies (import tariffs and export subsidies) by the selected trading partners has a stronger positive impact on export volumes than the removal of domestic support. This reflects the fact that these trade policies offer more protection to agricultural producers in the selected trading partners, when compared to domestic support (subsidy payment) policies.

For South Africa, the impact on exports of either the removal of domestic support or trade policy instruments by its selected trading partners is very small. Where South Africa's trading partners remove their domestic support, South Africa's export volumes fall by roughly -0.1%. The impact is nominally larger where South Africa also removes its own domestic support. Where trade policy instruments are removed, the impact on South African export volumes is positive, and this is especially so where South Africa also removes its own import tariffs and export subsidies.

The overall impact of the removal of either domestic support or trade policy on import volumes is similarly small, as shown in Figure 16. The removal of domestic support has the largest impact on Brazil, where import volumes increase by roughly 0.5% where domestic support is removed by South Africa and its trading partners. The removal of trade policy measures has a much larger impact on Chinese, Indian and South African import volumes, when compared to domestic support policies. This reflects the relative importance of import protection measures over direct payments in these countries.

Figure 16: % change in volume of imports, CGE simulations

Legend:
- A. Domestic support - Partner countries
- B. Domestic support - SA and partner countries
- C. Trade policy - Partner countries
- D. Trade policy - SA and partner countries

Source: Based on results of GTAP model simulations.

6.3.2 Impact on competitiveness of food and non-food sectors

The small overall impact of the different policy simulations masks the sectoral impacts of agricultural support, with the sectoral change in exports shown for South Africa in Table 14. It is clear that the removal of domestic support by South Africa's selected trading partners has a strong positive impact on South Africa's agricultural (and agro-processing) sectors (seen in columns A and B). In the primary agricultural sectors there is an especially strong positive export volume response in the wheat, sugar cane, plant fibres and milk sectors. Export volumes in agro-processing sectors such as meat products, vegetable oils, dairy products and sugar products also increase significantly.

However, the large (percentage) increases in these export volumes are offset by an almost 1% decrease in the export volumes of other manufactured goods. This is explained by two factors. First, as South Africa's trading partners remove their subsidy payments to the agricultural sector, this removes price distortions that favour the use of endowment factors in the agricultural sectors in those economies (capital, labour and land). This results in a re-allocation of the use of these factors toward non-agricultural sectors, and South Africa's selected trading partners increase output of non-agricultural goods, at a lower relative price.

Second, internally (and reflecting real World constraints), as South Africa increases its output of agricultural products (in response to increased export and domestic demand), this draws capital endowment resources away from other sectors, particularly from the mining, forestry and fishery and other manufacturing sectors. Because capital endowments are constrained, this results in falling output (and exports) in these sectors.

Because agricultural products form a relatively small portion of South Africa's overall export basket, and other manufactured goods make up a much larger share of this basket, a small decline in the volume of other manufactured goods effectively offsets the large increases in exports from the agricultural sectors.

47

As seen in Table 14, the effect of the removal of trade policy instruments (column C and D in Table 14) has different sectoral impacts, when compared to the domestic support policy simulation. The negative export response in some of South Africa's agricultural sectors to the removal of import tariffs (and export subsidies) by its selected trading partners is explained by trade diversion effects. This is largely related to South Africa's preferential agreement with the EU. Because South Africa's exports to the EU are largely duty free, were the EU to remove its MFN duties, EU imports would be diverted away from South Africa to more competitive markets.

Importantly, however, the simulation results suggest the export response is stronger for South Africa where it also removes its trade policy protection measures. This is particularly true for sectors such as the milk industry, and the increase in exports is a result of cheaper intermediate inputs making South African exports more globally competitive. This highlights that, while import tariffs may effectively serve to protect certain domestic industries, these same tariffs can potentially have an adverse impact on South Africa's trade competitiveness.

Table 14: % change in export volume, by sector, for South Africa, CGE simulations

Sector		Removing domestic support		Removing trade policy	
		A. Partner countries	B. SA and partner countries	C. Partner countries	D. SA and partner countries
Primary agriculture	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%
Food agro-processing	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%

The impact of these policies on import volumes is shown for South Africa's sectors in Table 15. Again, for domestic support, the relatively strong decline in import volumes by South Africa's agricultural sectors is offset by a small (percentage) increase in imports of other manufactured goods. In terms of trade policy effects, the impact on import volumes is small.

The exception to this is where South Africa also removes its import tariffs, resulting in a strong percentage increase (off a very small base) in other agricultural goods. This aggregate sector, which consists of fruits, vegetables and other crops (such as unmanufactured tobacco, spices and vegetable seeds), has significantly large weighted import tariffs, especially on South African imports from Brazil and India.

Table 15: % change in import volume, by sector, for South Africa, CGE simulations

Sector		Removing domestic support		Removing trade policy	
		A. Partner countries	**B. SA and partner countries**	**C. Partner countries**	**D. SA and partner countries**
Primary agriculture	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%
Food agro-processing	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%

6.3.3 Impact on production in food and non-food sectors

Table 16 shows South Africa's change in output volumes (production) across the different sectors and simulations. Again, there is a clear increase in output in the agricultural sectors, when domestic support is removed by South Africa's trading partners. However, this is offset by a decline in output in the other manufacturing sectors.

The output response by the agricultural sector to a removal of trade policy is more muted, reflecting the similarly small export response. As reflected on previously, where South Africa removes its own import protection measures for agriculture, some sectors see an increase in demand for these intermediate goods, with output and exports increasing as these sectors become more competitive.

Table 16: % change in output volume for South Africa, CGE simulations

Sector		Removing domestic support		Removing trade policy	
		A. Partner countries	B. SA and partner countries	C. Partner countries	D. SA and partner countries
Primary agriculture	Other grains	3.2%	3.2%	-0.2%	0.1%
	Wheat	5.4%	5.9%	-0.1%	0.5%
	Other agriculture	6.5%	6.3%	3.4%	-0.1%
	Sugar cane	0.3%	0.3%	0.0%	0.1%
	Plant fibres	8.3%	9.7%	0.2%	-0.3%
	Livestock	0.5%	0.3%	-0.1%	0.3%
	Milk	0.1%	0.0%	-0.1%	0.2%
Forestry and fishing		-0.2%	-0.2%	0.0%	0.0%
Mining		-0.2%	-0.2%	0.0%	0.0%
Food agro-processing	Meat products	0.4%	0.2%	-0.1%	0.3%
	Vegetable oils	2.4%	2.3%	-0.1%	0.5%
	Dairy	0.4%	0.4%	0.0%	0.2%
	Other food products	0.4%	0.4%	-0.1%	0.1%
	Sugar products	0.9%	0.9%	0.0%	0.3%
	Beverages and tobacco	0.1%	0.1%	0.0%	0.3%
Textiles, leather, clothing		0.3%	0.2%	-0.2%	-0.1%
Other manufacturing		-0.4%	-0.4%	-0.1%	0.0%

Source: Based on results of GTAP model simulations.

6.3.4 Impact on unskilled labour in food and non-food sectors

Table 17 shows the impact of agricultural support across the different scenarios. As with the trade and output results, there is a strong increase in the demand for unskilled labour in the primary and downstream agriculture and food sectors, offset by a decline in demand for unskilled labour in the other manufacturing sector.

Table 17: % change in demand for unskilled labour for South Africa, CGE simulations

Sector		Removing domestic support		Removing trade policy	
		A. Partner countries	B. SA and partner countries	C. Partner countries	D. SA and partner countries
Primary agriculture	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%
Food agro-processing	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%**

Source: Based on results of GTAP model simulations.

6.3.5 Economy-wide impact

The overall impact on GDP is shown in Figure 17. When domestic support is removed, the impact on GDP is largest for Brazil and India, where the increase in GDP is between 0.5% and 0.6%. This reflects the relative importance of the agricultural sector in these economies, and the fact that these countries have lower relative levels of domestic support when compared to

South Africa's other selected trading partners. For South Africa, the removal of domestic support has a smaller impact, with GDP increasing by 0.3% where its trading partners also remove their own domestic support.

The impact on GDP resulting from removal of trade policy is lower for all countries, with India seeing a decline in GDP. This is because the increase in Indian imports outweighs the increase in its exports (reflecting its relatively high levels of import protection). For South Africa, the increase in GDP is estimated to be less than 0.1% when trade policy measures are removed by it or its selected trading partners.

Figure 17: % change in GDP, CGE simulations
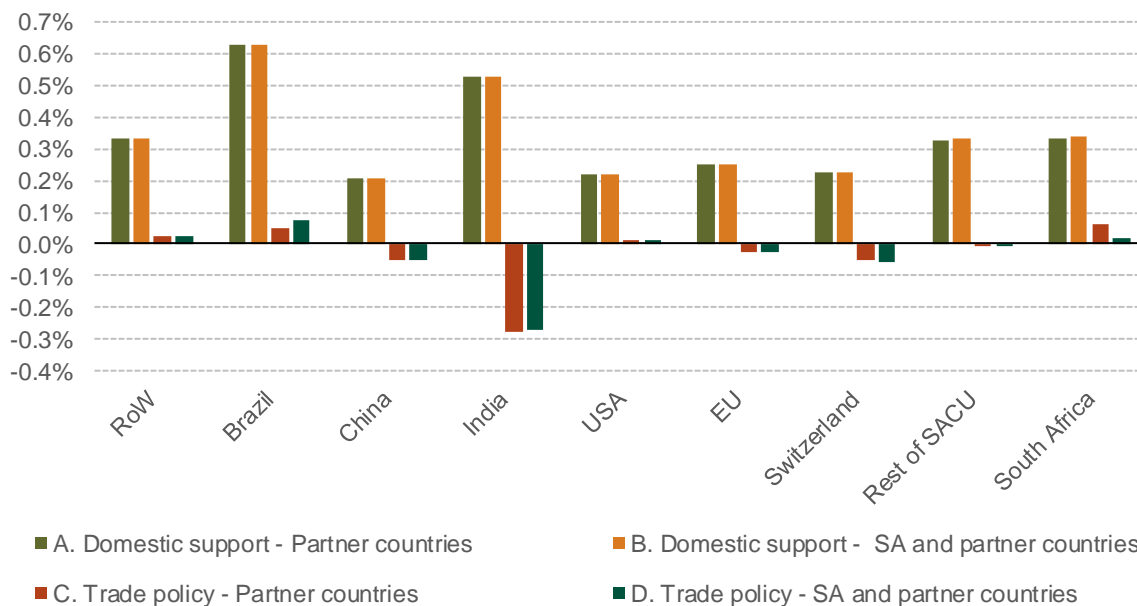
Source: Based on results of GTAP model simulations.

The welfare effect is the combined effect of a number of impacts. These include:

- the allocative efficiency effect (which effectively represents the removal of distortions in the economy, with better use being made of existing resources),
- the endowment effect (arising from changes in the use of primary factors, such as unskilled labour),
- terms of trade effect (changes in relative prices of exports and imports), and
- the investing-savings terms of trade (reflecting the impact of the change in price of investment).

The overall welfare impact of the removal of domestic support and trade policy measures is shown in Figure 18. The overall welfare impact is small for all countries. Brazil and India see the largest positive welfare gains, of between 0.06% and 0.08% of GDP. For South Africa, the welfare gains from the removal of domestic support measures are negligible. However, South Africa sees welfare gains of just over 0.06% of GDP when both it and its selected trading partners remove trade policy instruments. This is primarily a result of allocative efficiency gains as distortion arising from import tariffs are removed.

Figure 18: Welfare impact (% of GDP), CGE simulations

- ■ A. Domestic support - Partner countries
- ■ B. Domestic support - SA and partner countries
- ■ C. Trade policy - Partner countries
- ■ D. Trade policy - SA and partner countries

Source: Based on results of GTAP model simulations.

6.4 Summary of analysis

The CGE analysis suggests that domestic producer support (subsidy payments) in South Africa's trading partners does have a negative impact on South Africa's own agricultural sector (in terms of output and exports). As a result, this negative impact carriers through to South Africa's downstream agro-processing and food production sectors. However, the analysis also suggests that the distortive effect of agricultural subsidies in South Africa's partner countries has a positive impact on its manufacturing sector. This is because subsidised agricultural produce in South Africa's trading partners results in the re-allocation of capital and labour endowments toward the non-agricultural (and non-food) sectors, at a lower relative cost (price).

The impact of trade policy, as a proxy for MPS, is directly related to sector-specific protection. For South Africa, the removal of trade policy measures (and specifically import tariffs) in its selected trading partners has both trade creation (where South African exports increase as a result of better market access) and trade diversion (where South African exports decrease because other markets can supply goods at a more competitive price) effects. The CGE analysis also suggests that some (agricultural and non-agricultural) sectors may benefit, where both South Africa and its trading partner remove their trade policy measures. This is, in part, because intermediate inputs used by some of South Africa's sectors become cheaper, making these sectors' exports more competitive.

6.5 Policy implications from CGE analysis

Overall, the CGE analysis suggests that domestic support and trade policy support measures by South Africa's trading partners have a relatively small net impact on its overall economy. However, where the agriculture sector (and the primary agriculture industry in particular) is a clear policy priority, the CGE analysis clearly shows that domestic support and trade policy support measures implemented by South Africa's trading partners has a (sometimes large) negative impact on South Africa's agriculture value chains.

The CGE analysis also suggests that, rather than the greater use of tariffs by South Africa to counter this negative effect, agriculture value chains would be better served by increased use of domestic (budget) support measures. This is because South African import duties (particularly on primary agriculture sector goods) are found to raise the cost of production for downstream sectors. Rather than viewing each industry in isolation, support should therefore be provided throughout priority value chains. In this way, the distortive effect of such support can be, to some extent, mitigated. However, such an approach would require a very clear understanding of the needs of each value chain in order to ensure that any support provided has demonstrably positive impact on that value chain's overall competitiveness.

7 Overall summary of findings

The analyses of the primary sources of information highlight a number of broad conclusions. As reflected in WTO information, the type and scope of agricultural support programmes varies widely across countries. However, there is purportedly (based on self-notification) strong use of green box support measures by South Africa's trading partners, and specifically its "developed country" partners.

Most of the selected trading partners, with the exception of India, have made predominant use of green box measures. India is the only country to report a higher share of measures classified as brown box. The EU, in particular, appears to have made extensive use of green box measures, and is the only country of the selected partners to have made use of the blue box as well.

In absolute terms, there also appears to be declining use of amber box measures (excluding de minimis support). The USA and Switzerland have seen declining expenditure in this area over the years for which data is available. For the most recent year available, Brazil, India and China report zero expenditure on amber box measures, though it should be noted that India and China do not have amber box facilities. While not directly comparable, this is confirmed, to some extent, by the OECD data, which shows that dedicated producer support (PSE) has declined (as a % of GFR) for most countries.

For the majority of economies under current scrutiny (also based on OECD data), relative levels of overall support have fallen. The clear exception to this is China, where total support to the agriculture sector (reflected as % of GDP) has increased significantly between 2001 and 2017. This reflects, in part, increasing producer-specific support (reflected as a % of GFR) over this period.

In terms of total support for agriculture, South Africa provides the lowest levels of support (reflected as a cost to the economy, as a % of GDP) when compared to its selected trading partners. In addition, the level of this support has declined over time. From a policy perspective, this is a result of two key factors. First, producer-specific support in South Africa has not matched that of either South Africa's developed or developing country trading partners. Second, for some of its trading partners (particularly the USA), budgetary transfers to consumers form a significant component of agricultural support.

This is also reflected in commodity-specific support, where South Africa has typically been shown to provide the lowest relative levels of commodity-specific support across all of the selected commodities. The single exception to this is sugar, where South Africa's support is

comparable to that of some of its trading partners. It should be noted that Brazil, despite being a major global agricultural producer, also has comparatively low levels of support for agriculture. This may reflect its reliance on its natural resource endowment over supportive government policies to drive agricultural production.

Finally, the analysis makes clear that price support mechanisms (including import tariffs) make up a significant share of South Africa's (and many of its trading partners') producer support. While the share of this support has declined over time, producers have historically benefitted more from price support measures, rather than directly through budgetary transfers (direct monetary subsidies). The exception to this is China, where price support mechanisms have historically made up a small proportion of producer support, but where the share of this form of support has increased significantly over the last 25 years.

The economy-wide CGE analysis suggests that domestic support (subsidy payments to agricultural producers) in South Africa's trading partners does have a negative impact on South Africa's own agricultural sector (in terms of output and exports). The CGE analysis also shows that the removal of trade policy measures (import tariffs and export subsidies) by its selected trading partners has both trade creation and trade diversion effects for South Africa.

Nevertheless, the CGE analysis suggests that the overall impact of domestic producer support and trade policy support measures implemented by South Africa's trading partners is relatively small. For example, the removal of domestic producer support (budget payments to agricultural producers) by South Africa's selected trading partners is estimated to result in South Africa's GDP increasing by just over 0.3%. Similarly, the removal of trade policy instruments (such as import tariffs and export subsidies) by South Africa's selected trading partners is seen to result in South Africa's GDP increasing by less than 0.1%.

8 Policy recommendations

8.1 South Africa has ample policy space to increase budgetary support

8.1.1 5.1.1 Spending on producers and/or the agriculture sector in general

The main observation is that of all the countries assessed, South Africa is among the bottom in terms of budgetary support spending on agriculture. This suggests that South Africa could simply spend more on agricultural support in order to compete against its selected trading partners. The analysis also makes clear that under the WTO South Africa still has significant policy space to support the agricultural sector:

- Under the amber box South Africa can provide support of up to R2 billion,
- Under the *de minimis* rule, South Africa can provide support of up to 20% of the value of its agricultural production (product specific and non-product specific de minimis support),
- Under blue box measures (with limits on production), South Africa can provide unlimited support,
- As a developing country, South Africa can undertake unlimited support under brown box measures, and
- Under green box support measures, South Africa can provide unlimited support.

Where the primary (and broader) agriculture sector is deemed a policy priority, the government should devote more funding (in absolute terms) to this sector.

8.1.2 Spending on consumers of agricultural produce

The existing data suggests that countries such as the USA, and to a lesser extent Brazil and India, spend significant amounts in supporting consumers of agricultural products. Further support to consumers of agricultural produce (both within the value chain and for end-consumers) could be explored, where this is aligned to the South African government's overall policy objectives. Such support could, for example, build on the Department of Basic Education's National School Nutrition Programme.

8.2 Improving the effectiveness and efficiency of support should be a priority

Except for India, South Africa spends proportionately more than any of its other trading partners on general support for the agricultural sector (and more specifically on services related to R&D, inspection and control, development and maintenance of infrastructure as well as marketing and promotion). Nevertheless, because its overall support for agriculture is comparatively low, its overall relative spending on general support measures is also among the lowest of all comparator countries. It is also clear that budgetary constraints limit the ability of government to increase direct transfers to agricultural producers and the sector in general.

This suggests that greater focus and attention needs to be given to the efficiency and targeting of such transfers including current transfers. Where South Africa cannot increase the overall amount of budget support for the agricultural sector, re-allocating existing expenditure to focus on specific areas of need and priority may have a better overall impact for the sector. This re-allocation of resources would require further, detailed, investigation of the effectiveness of existing budget transfers to producers within particular value chains and to the agriculture sector in general.

To this end a holistic review of current support programmes is required. This review should include both spending that is production-linked, but also support provided to the agriculture sector in general (e.g. through the Agri-parks infrastructure programme and incentives that aim to support R&D and innovation). This suggests that such a review should commence by identifying exactly how much support has historically been provided by the different spheres of government and what outcomes such support has targeted.

To ensure that future spending on, and budget support to, the agriculture sector is effective for the entire sectoral value chain, rather than only portions of it, industry associations in collaboration with government should be encouraged to engage in a needs assessment exercise to identify which value chain bottlenecks could be partially addressed through such targeted support.

8.3 Tariff policy should only be strategically used

From a non-budget perspective, market price support elements (including import duties) are a large component of overall agricultural support, both in South Africa and in its trading partners. However, there is significant policy space available for South Africa given that its average applied import duties are far below its bound import duty rates for agriculture.

In addressing import competition, industry and government may therefore wish to explore how import tariff policy could be better utilised to increase the competitiveness of agricultural value chains. Increasing tariffs on agricultural products remain a strategic policy option for South Africa, particularly when targeting imports from countries with which South Africa has no reciprocal trade agreement in place. However, the use of such an instrument has both narrow benefits (to a particular industry) and wider costs (to downstream industries, the end-consumer and the overall economy) and the use of such instruments should be assessed in such terms.

As stated before, this approach could also only be undertaken within the constraints imposed by South Africa's existing WTO bound rate commitments and trade agreements. For the selected trading partners in this study, this is primarily in relation to South Africa's Economic Partnership Agreement (EPA) with the EU, and to a lesser extent, SACU's preferential trade agreements with Brazil and Switzerland.[52]

Government may also consider minimising market access concessions provided to any imported agricultural product benefiting from coupled (i.e. production-linked) support in future trade negotiations.

8.4 Making use of countervailing measures to create a level playing field

Focusing on the agricultural industry, the use of countervailing measures is the most targeted policy instrument available aimed at establishing a level playing field for South African producers of agricultural produce competing against subsidised imports. This is specifically where firms and industry associations wish to counter any distortive effect of support provided to products imported into South Africa.

To date, not a single countervailing remedy has been imposed by South Africa against imported agricultural products. This is a policy tool that is available to industry and which Government can encourage. It is also worth noting that South Africa's Countervailing Regulations issued under the International Trade Administration Act, 2002 (Act No. 71 of 2002) allows South Africa's International Trade Commission to also self-initiate a countervailing investigation.

However, the use of this measure requires (1) establishing the nature and quantity of support (2) confirming specificity of the benefit conferred; (3) determining material injury suffered; and (4) establishing causality between the subsidy and material injury suffered. The use of this instrument therefore requires substantial investigation by the applying party, before such a measure could be used.

8.5 Compliance with Sanitary and Phytosanitary requirements is key

From an export perspective, increased focus should be placed on enhancing the ability of South African producers to access foreign markets. In addition to negotiating tariff concessions from its trading partners in future trade agreements, South Africa should ensure that there is

---

[52] The preferential agreements with European Free Trade Association (EFTA) (for Switzerland) and the Common Market of the South (MERCOSUR) (for Brazil) cover fewer agricultural products than South Africa's EPA with the EU. However, it should also be noted that the SACU agreement with the EFTA is currently under review.

sufficient institutional and technical capacity within the country that will enable the agricultural sector to comply with the sanitary and phytosanitary requirements of South Africa's trading partners.

Importantly, this applies not only to South Africa's trading partners prioritised in this study, but also to the SACU and other African regional economic communities, which are the main markets for South Africa's primary agriculture products. Here, South Africa should play a lead role in advocating (and where possible providing capacity for) the harmonisation of health regulations, certification requirements and standards across the region and the Continent. Such an approach would significantly enhance the ability of South African exporters to increase exports into Africa to capitalise on the opportunities that stand to be offered by both the Tri-partite Free Trade Agreement and the African Continental Free Trade Agreement.

Appendix A   Product grouping for production and trade analysis

| Study product | FAO product | HS classification (as per FAO product grouping) | |
		HS12 Code	Description
Beef	Meat, cattle	020110	Carcases or half-carcases of bovine animals, fresh or chilled
		020120	Fresh or chilled bovine cuts, with bone in (excluding carcases and 1/2 carcases)
		020210	Frozen bovine carcases and half-carcases
		020220	Frozen bovine cuts, with bone in (excluding carcases and half-carcases)
Poultry	Eggs, hen, in shell	040711	Fertilised eggs for incubation, of domestic fowls
		040721	Fresh eggs of domestic fowls, in shell (excluding fertilised for incubation)
		040790	Birds' eggs, in shell, preserved or cooked
	Meat, chicken	020711	Fresh or chilled fowls of the species Gallus domesticus, not cut in pieces
		020712	Frozen fowls of the species Gallus domesticus, not cut in pieces
		020713	Fresh or chilled cuts and edible offal of fowls of the species Gallus domesticus
		020714	Frozen cuts and edible offal of fowls of the species Gallus domesticus
		020760	Meat and edible offal of domestic guinea fowls, fresh, chilled or frozen
Dairy	Milk, whole fresh cow	040120	Milk and cream of a fat content by weight of > 1% but <= 6%, not concentrated nor containing ...
		040140	Milk and cream of a fat content by weight of > 6% but <= 10%, not concentrated nor containing ...
		040150	Milk and cream of a fat content by weight of > 10%, not concentrated nor containing added sugar ...
	Milk, dry buttermilk	040390	Buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, ...

Study product	FAO product	HS classification (as per FAO product grouping)	
		HS12 Code	**Description**
	Milk, skimmed condensed	040299	Milk and cream, concentrated and sweetened (excluding in solid forms)
	Milk, skimmed cow	040110	Milk and cream of a fat content by weight of <= 1%, not concentrated nor containing added sugar ...
		040120	Milk and cream of a fat content by weight of > 1% but <= 6%, not concentrated nor containing ...
	Milk, skimmed dried	040210	Milk and cream in solid forms, of a fat content by weight of <= 1,5%
	Milk, skimmed evaporated	040291	Milk and cream, concentrated but unsweetened (excluding in solid forms)
	Milk, whole condensed	040299	Milk and cream, concentrated and sweetened (excluding in solid forms)
	Milk, whole dried	040221	Milk and cream in solid forms, of a fat content by weight of > 1,5%, unsweetened
		040229	Milk and cream in solid forms, of a fat content by weight of > 1,5%, sweetened
	Milk, whole evaporated	040291	Milk and cream, concentrated but unsweetened (excluding in solid forms)
Maize	Maize	100510	Maize seed for sowing
		100590	Maize (excluding seed for sowing)
Wheat	Wheat	100111	Durum wheat seed for sowing
		100119	Durum wheat (excluding seed for sowing)
		100191	Seed of wheat and meslin, for sowing (excluding durum)
		100199	Wheat and meslin (excluding seed for sowing, and durum wheat)
Soya	Soybeans	120110	Soya bean seed, for sowing
		120190	Soya beans, whether or not broken (excluding seed for sowing)

Study product	FAO product	HS classification (as per FAO product grouping)	
		HS12 Code	**Description**
Cotton	Cotton lint	520100	Cotton, neither carded nor combed
	Cottonseed	120721	Cotton seeds for sowing
		120729	Cotton seeds (excluding for sowing)
Sugar	Sugar beet	121291	Sugar beet, fresh, chilled, frozen or dried, whether or not ground
	Sugar cane	121293	Sugar cane, fresh, chilled, frozen or dried, whether or not ground
	Sugar Raw Centrifugal	170112	Raw beet sugar (excluding added flavouring or colouring)
		170114	Raw cane sugar, in solid form, not containing added flavouring or colouring matter (excluding ...

Source: FAOStat.

Appendix B   Disaggregated production and trade data for EU

Production, 000 tonnes (Average 2012 – 2016)

	Beef	Cotton	Dairy	Maize	Poultry	Soya	Sugar	Wheat
Austria	226.4		3,486.9	1,020.4	112.2	118.8	3,442.4	1,674.7
Belgium	263.2		3,621.0	653.8	297.6		4,718.4	1,810.4
Bulgaria	18.5	0.1	1,078.2	1,253.2	79.0	12.0		5,196.3
Croatia	44.0		720.6	1,432.6	34.1	156.0	1,057.6	873.3
Cyprus	4.9	0.0	161.8		16.5			20.1
Czech Republic	67.9		2,937.6	744.8	110.1	18.3	3,915.3	4,878.2
Denmark	126.1		5,200.4	64.0	123.0		2,373.9	4,610.9
Estonia	11.8		772.5		15.2			555.0
Finland	83.7		2,372.1		87.7		469.1	932.1
France	1,442.2		24,455.1	7,643.0	1,057.1	223.4	34,371.0	37,548.4
Germany	1,138.6		31,949.7	4,607.0	886.0	20.0	25,666.6	25,245.3
Greece	56.4	376.2	766.5	1,208.0	136.9	3.8	477.9	1,709.2
Hungary	25.8		1,749.6	3,723.4	209.5	110.8	905.2	4,890.1
Ireland	549.5		6,044.8		65.5		0.0	662.9
Italy	811.5		10,794.3	7,782.5	837.9	835.6	2,533.3	7,508.1
Latvia	18.0		900.3		34.8		0.0	1,750.9
Lithuania	41.5		1,728.8	92.4	69.4		907.5	3,455.9
Luxembourg	8.8		325.0	1.4	1.1			81.9
Malta	1.1		42.4		4.4			15.2
Netherlands	385.5		12,803.3	151.1	833.9		5,729.5	1,251.5
Poland	440.4		12,970.4	2,020.8	1,113.1	3.2	11,992.2	10,301.4
Portugal	87.2		1,940.8	842.7	206.4		8.6	84.0
Romania	110.7	0.0	3,994.4	4,909.5	346.5	196.5	1,040.1	7,314.5
Slovakia	11.4		945.6	679.4	66.5	64.0	1,260.3	1,909.7
Slovenia	33.2		623.4	307.9	38.5	2.8		164.0
Spain	603.7	66.6	6,249.6	4,586.7	979.1	2.3	1,649.9	6,440.5
Sweden	131.6		2,915.8		130.2		1,945.4	2,675.8
United Kingdom	881.2		14,644.8		1,079.7		7,387.2	14,523.1

Source: Own calculations based on data from FAOStat. Blanks reflect no data available. Top three countries for each product reflected in green.

Exports, US$ millions (Average 2012 – 2016)

	Beef	Cotton	Dairy	Maize	Poultry	Soya	Sugar	Wheat
Austria	229.1	1.9	468.1	195.2	115.5	41.8	10.6	226.1
Belgium	423.6	10.6	1,878.0	102.5	1,063.0	80.1	49.6	237.8
Bulgaria	3.5	0.7	18.0	310.2	96.2	1.0	0.7	755.8
Croatia	14.5	0.0	18.8	72.8	11.7	47.7	0.2	74.0
Cyprus	0.0	0.0	3.4	0.1	0.7	0.0	0.0	0.0
Czech Republic	18.2	0.1	473.3	82.8	123.2	4.2	17.8	486.1
Denmark	174.3	0.5	567.0	14.5	160.1	1.3	2.4	195.5
Estonia	4.2	0.0	99.6	0.5	14.8	0.9	0.1	70.0
Finland	1.2	0.0	138.7	0.0	27.2	0.4	1.3	49.0
France	936.9	6.2	2,244.4	2,154.8	835.0	31.2	88.3	4,857.6
Germany	816.4	24.3	3,510.4	254.3	1,039.0	31.9	26.2	2,474.6
Greece	1.2	491.3	13.7	15.7	23.1	0.1	2.2	110.4
Hungary	36.6	2.2	173.5	905.1	235.9	24.7	10.1	486.2
Ireland	363.9	0.1	401.3	2.0	88.2	0.8	2.6	8.6
Italy	219.0	11.0	107.9	60.0	223.1	28.1	3.3	140.1
Latvia	25.9	0.2	147.5	4.2	46.0	1.3	0.5	384.6
Lithuania	42.1	0.0	248.2	9.7	118.6	0.8	0.2	580.3
Luxembourg	3.0	0.0	136.4	3.6	1.7	0.0	0.0	7.5
Malta	0.0	0.0	0.0	0.1	0.0	0.0	0.0	5.9
Netherlands	888.3	0.4	2,365.2	183.3	3,439.1	670.8	12.2	175.9
Poland	786.9	0.1	716.6	210.7	1,278.8	0.8	35.6	651.3
Portugal	23.7	1.6	194.8	14.4	56.9	6.3	0.4	7.3
Romania	8.7	0.1	41.6	916.3	175.7	40.5	1.9	1,062.1
Slovakia	8.1	0.9	162.0	130.5	115.5	30.1	31.8	206.0
Slovenia	10.7	0.0	136.5	22.7	48.9	5.8	2.0	15.0
Spain	453.8	111.4	424.0	88.0	334.6	12.9	4.0	154.3
Sweden	1.3	0.1	296.7	0.4	46.7	0.3	6.2	162.8
United Kingdom	154.8	1.0	730.8	30.9	442.6	1.4	87.6	351.3

Source: Own calculations based on data from ITC Trademap. Blanks reflect no data available. Top three countries for each product reflected in green.

Imports, US$ millions (Average 2012 – 2016)

	Beef	Cotton	Dairy	Maize	Poultry	Soya	Sugar	Wheat
Austria	101.4	12.9	174.1	233.2	169.1	60.5	14.2	177.0
Belgium	75.1	22.6	1,322.9	427.2	442.9	183.4	42.1	1,035.4
Bulgaria	9.3	9.2	102.6	48.2	124.4	5.4	36.9	8.2
Croatia	39.9	0.3	89.7	25.7	46.2	2.2	69.3	10.7
Cyprus	3.7	0.3	15.0	50.0	24.1	0.0	0.6	30.4
Czech Republic	23.2	9.2	108.0	64.0	241.5	20.2	27.6	13.7
Denmark	100.2	0.7	110.3	86.2	147.1	20.1	8.3	75.5
Estonia	2.7	1.2	22.0	5.9	38.8	0.7	0.6	4.2
Finland	9.4	0.1	37.8	1.1	20.5	18.5	62.6	3.2
France	548.6	30.3	990.6	303.2	1,028.9	367.7	70.3	151.1
Germany	639.7	87.0	1,600.6	836.3	1,643.5	1,795.2	89.4	1,071.6
Greece	360.5	13.5	331.1	117.7	138.3	148.0	45.5	245.2
Hungary	8.3	2.7	114.7	111.3	73.9	30.5	25.5	28.9
Ireland	27.9	0.9	319.3	190.6	271.1	7.2	40.4	59.1
Italy	1,588.7	144.9	1,556.0	969.1	192.8	654.8	185.7	2,051.0
Latvia	6.2	0.6	58.6	10.0	53.9	3.1	1.2	65.0
Lithuania	0.7	0.1	185.8	26.4	57.6	3.4	0.4	24.3
Luxembourg	26.0	0.0	53.5	6.9	40.0	0.2	0.5	36.4
Malta	0.8	0.0	12.2	13.2	15.0	0.3	0.2	19.2
Netherlands	973.1	5.2	1,251.9	1,204.8	1,189.2	1,856.5	71.8	1,119.4
Poland	23.6	6.1	365.6	151.6	68.7	21.8	83.2	125.1
Portugal	228.8	60.3	186.8	425.9	72.5	366.6	216.0	341.8
Romania	7.5	0.8	114.5	210.0	156.5	59.3	174.8	192.5
Slovakia	19.1	0.9	111.5	62.6	114.2	14.5	8.4	15.6
Slovenia	18.4	2.7	62.0	42.2	30.3	7.0	3.4	32.7
Spain	260.5	18.8	494.4	1,537.0	245.2	1,676.1	342.6	1,304.9
Sweden	56.5	0.2	156.1	11.0	180.4	19.2	17.7	55.5
United Kingdom	281.3	2.6	777.0	489.6	1,504.7	385.0	512.4	592.3

Source: Own calculations based on data from ITC Trademap. Blanks reflect no data available. Top three countries for each product reflected in green.

Appendix C   Comparisons between WTO and OECD information

The WTO and OECD provide two different frameworks to assess and analyse the level of support provided to the agriculture sector. The WTO's framework stems primarily from the negotiated outcomes, and in particular the AoA, that WTO Members are expected to adhere to. WTO data on agriculture support is also largely reliant on self-notification by WTO Members, or irregular trade policy reviews undertaken by the WTO itself.

By contrast, the OECD's framework is based on a methodology developed by the OECD, as part of a process to evaluate the evolution and impact of agricultural policies in OECD (and some non-OECD) member states.

WTO notifications and trade policy reviews (TPRs) also do not provide information consistently across Members (see table below). In some cases, information available from WTO notifications and TPRs are also quite outdated. For example, the most recent notification on domestic support submitted by China to the WTO Committee on Agriculture is dated 6 May 2015 and provides information on domestic support for the calendar years 2009 and 2010. [53]

Availability of agricultural support data between WTO and OECD

Country	WTO information		Included in OECD policy review
	Year of information in notifications submitted by countries (year submitted)	Most recent TPR published	
Brazil	2015/16 (submitted 2018)	2017	Yes
China	2010 (submitted 2015)	2016	Yes
EU	2014/15 (submitted 2018)	2017	Yes
India	2015/16 (submitted 2018)	2015	Only from 2018
Switzerland	2014 (submitted 2018)	2017	Yes
USA	2015 (submitted 2018)	2017	Yes

Source: Based on country WTO TPRs and notifications to the WTO.

By contrast the OECD has a uniform framework for classifying and reporting different types of support, and on an annual basis. The OECD therefore has consistent and uniformly measured data available across all countries included in this study, including South Africa up to 2017. The one exception is India, for which a first OECD report on agricultural policy was only

---

[53] See WTO document G/AG/N/CHN/28

published in July 2018. As a result, OECD data available for India, across the different indicators of support, is less consistent than for other countries in this study. [54]

It is also important to highlight that because of different methodologies for compiling agricultural support indicators, the WTO and OECD data are not directly comparable nor compatible. The OECD notes that while being defined in a theoretically similar manner, there are important differences between its own PSE indicator and the WTO's AMS.[55] The PSE and AMS are similar in that they include estimates of budgetary transfers, MPS and revenue foregone.

The differences are more striking. Firstly, the indicators were developed for different reasons – the AMS was developed for the AoA to serve as a basis for which domestic support for agriculture could be "disciplined and monitored". This contrasts with the PSE indicator which was developed to assess agricultural policies in OECD member states. This implies that there are differences in policy coverage and the defined economic value of support measured.

Second, the AMS has a narrower coverage of support policies than the PSE. Whereas the PSE aims to substantively cover all forms of agriculture producer support, the AMS excludes several policies:

- The AMS covers only those policies that "have the greatest production and trade effects (classified to the so-called Amber Box)".
- The AMS measure excludes trade policies that are classified under the WTO AoA's market access and export subsidisation pillars.
- Production-limiting policies (Blue Box) and policies deemed non or least-trade distorting (Green Box) are excluded from the AMS.
- Trade distorting measures smaller than a specified *de minimis* level in value are excluded from the AMS.

Finally, the OECD notes that the PSE is a measure of the current value of transfers to producers while the AMS, specifically in relation to MPS, uses a historic base year to calculate the difference between producer and border prices. The calculated AMS may therefore be substantially different to the actual level of support provided to producers in a given year.

As summarised by the WTO Secretariat: "*Compared to the methodology used to calculate the level of support provided under the Amber, Blue, and Green Boxes in the WTO, the OECD's annual monitoring and evaluation reports on support to agriculture in OECD countries use a different methodology to calculate the value of support which is expressed in a number of indicators, including: the Producer Support Estimate (PSE) for gross transfers from consumers and tax payers to agricultural producers; the Total Support Estimate (TSE) for transfers to the agricultural sector in general; and the Single Commodity Transfers (SCT) for transfers to specific commodities. As previously noted, the PSE represents the value of transfers to producers, unlike support under the Amber Box, Blue Box and Green Box, which measure compliance with WTO commitments. Therefore, the value of support as notified to the WTO is*

---

neither compatible nor comparable with the values calculated by the OECD. [own underlining]".[56]

---

[56] See WTO document WT/TPR/S/357/Rev.1, 13 October 2017, paragraph 4.48 read with WTO document WT/TR/S/284/Rev.2, 28 November 2013, paragraph 4.34

Appendix D   Brief overview of agricultural policies

The following overviews rely heavily on countries' trade policy notifications to the WTO, and reviews undertaken by the countries and the WTO. The intention of the overview is to briefly highlight the main policy measures utilised to support the agricultural sector in each country.

D.1   EU

The European Union (EU) considers the agricultural sector an important contributing sector to European identity and prosperity. Farmers are identified as economic actors and defenders of food security in the EU.[57]

In support of this, significant government intervention is articulated in the Common Agricultural Policy (CAP), with the latest iteration covering the financial period 2014 to 2020. The CAP promotes the use of less trade-distorting policy instruments, and either decreases or eliminates the administered prices for some products. As a result, most support to farmers is now granted in the form of decoupled direct payments with no obligation to produce.[58]

Market intervention measures are maintained in the current CAP but only as a safety net mechanism, which means that they will only be used in the event of a crisis in the market. At the same time, long-term price developments on global markets also contributed to the reduced role of the EU's market intervention measures. For instance, the EU has abolished the last quota systems in the CAP e.g. the dairy and sugar quotas ended in March 2015 and September 2017 respectively.

The two largest areas of expenditure out of the EU budget in 2013 and 2014 were agriculture and structural operations, comprising the European Agriculture Guarantee Fund, the European Agricultural Fund for Rural Development, and the Cohesion Fund, summarized in the following table.

EU agricultural funds

Agricultural funds	Description
European Agriculture Guarantee Fund (EAGF)	Covers direct payments and market measures (Pillar I). EAGF primarily finances direct payments to farmers and measures regulating or supporting agricultural markets.
European Agricultural Fund for Rural Development (EAFRD)	Finances the EU contribution to rural development programmes (Pillar II). Programmes are designed in cooperation between the European Commission and the member states, taking into account the strategic guidelines for rural development policy adopted by the Council and the priorities laid down by national strategy plans.
Cohesion Fund	Aimed at member states whose Gross National Income (GNI) per inhabitant is less than 90 % of the EU average. It aims to reduce economic and social disparities and to promote sustainable development.

European Commission. 2018. Financing the Common Agricultural Policy

---

[57] European Commission. 2016. State of the Union 2016.

[58] WTO. 2017. Trade policy review. WT/TPR/G/367

Subsidies in the EU are granted both out of the EU budget and by member states in the form of state aid. The EU also provides agricultural sector support through non-crisis state aid.

The rules governing direct payments require internal convergence within each member state so that payments per hectare move towards a more uniform level across all member states. Types of direct payments in the EU include:[59]

- Greening payment – In 2016 each member state was required to allocate 30% of the national ceiling for direct payments to agricultural practices beneficial for the climate and the environment. To qualify for payments, basic requirements must be met relating to crop diversification and maintenance of permanent grass land, and each farmer holding over 15 ha must have at least 5% of the area designated as an "ecological focus area". To qualify as an ecological focus area, land use must meet a number of criteria which varies by member state, and includes landscape features (e.g. trees in groups, field margins, trees in lines, ditches, and hedges), buffer strips, short rotation coppice, catch crops, or nitrogen-fixing crops.
- Payment for young farmers' scheme - Each member state is required to operate the young farmers' scheme which provides additional payments to farmers aged 40 years or under who are first time establishers of a farm as the head of an agricultural holding, or who have already done so within the five years preceding the scheme.
- Redistributive payments - Under the redistributive payments scheme, each member state may use up to 30% of the national ceiling for payments for the first 30 hectares or up to the average farm size. Seven-member states, plus Belgium (Wallonia) and U.K. (Wales), opted to apply redistributive payments in 2015 by providing additional direct payments for the first 3 to 54 hectares.
- Payments for areas with natural constraints - In addition to various schemes under Pillar II that support areas with natural constraints, each member state had the option to reserve up to 5% of the national ceiling or support for areas with natural constraints.
- Voluntary coupled support – Based on the latest WTO notification and TPR for the EU, Beef and veal production are the most supported sector, followed by dairy products, sheep and goat meat, and protein crops. In addition to voluntary coupled support, the EU provides for payments for cotton in Greece, Spain, and Bulgaria.

Member states also have the option of applying for a small farmers' scheme, which is a simplified scheme that replaces all other direct payments and exempts eligible farmers from greening and cross-compliance controls. Apart from the small farmers' scheme, all direct payment programmes are subject to provisions to ensure compliance with basic standards relating to the environment, food safety, animal and plant health and animal welfare.

Rural development i.e. Pillar II of the Common Agricultural Policy (CAP), is funded through the European Agricultural Fund for Rural Development (EAFRD). In addition to these funds, the member states also provide co-funding at rates that depend on the type of project and the member state. Total funding from the EAFRD for 2014-20 is €100 billion and co-funding from the member states is €61 billion, amounting to €160 billion. Some of the Pillar II programmes

---

[59] EU TPR, Report by the WTO Secretariat, Oct 2017.

and measures are targeted at farmers and intended to improve efficiency, improve productivity in the sector or target risk reduction.[60]

D.2   USA

The USA's most recent change to the legal framework for agricultural support is through the Agricultural Act of 2014 ("Farm Act"). Through the Farm Act, a number of major changes have been introduced to historical pillars of support provided to agricultural producers in the US. This includes the elimination of direct payments, the counter-cyclical payments program and the average crop revenue election program. Revisions were also made to some price support programmes, which includes the replacement of MPS with a margin protection programme for dairy farmers.[61]

There are multiple programmes under the new Farm Act, summarized in the table below. The Farm Act has new policies for commodity and dairy programmes, while also retroactively restoring a number of disaster assistance elements. Most of these programmes are funded under multi-year legislation approved by Congress that amends or suspends permanent law provisions

2014 Farm Act programmes

	Programme title	Description	Essential elements
Commodity programmes Producers with base acres choose between PLC or country-based ARC for each covered commodity or farm-based ARC for all covered commodities on the farm	Price Loss Coverage (PLC)	Provides payments on a share of historical base acres and yields when commodity prices fall below reference price levels for covered crops.	New • Payments coupled to current prices but decoupled from production. • Payments are tied to historical base acres and historical yields without requirement to produce; land owners had the option of updating yields and reallocating, but not increasing, base acres.
	Agriculture Risk Coverage (ARC)	Provides payments on a share of historical base acres and yields when revenue at the county or farm level for covered commodities falls below a county-based or individual benchmark guarantee for covered commodities.	New • Payments based on difference between actual revenue and the benchmark revenue guarantee at the country of farm level. • Choice between revenue guarantee at country level (country ARC) for each covered commodity or farm-level (individual ARC) revenue guarantee based on all covered commodities on the farm. • Payments are coupled to current prices but decoupled from production. • Payments are tied to historical base acres; land owners had the option of reallocating, but not increasing, base acres.
	Marketing Loan Program	-	Maintained

---

[60] EU TPR, Report by the WTO Secretariat, Oct 2017.

[61] United States TPR, Report by the WTO Secretariat, March 2017.

	Programme title	Description	Essential elements
			• Coupled to current prices and production. • Loan rates unchanged, except for potential downward adjustment of upland cotton loan rate.
Crop insurance	Federal Crop Insurance Program (permanently authorized)	-	Maintained; new subsidized insurance programmes: • Supplemental Coverage Option (SCO) • Stacked Income Protection Plan for producers of upland cotton (STAX)
Disaster assistance	Non-Insured Crop Disaster Assistance Program (NAP)	-	Maintained
	Livestock Indemnity Program (LIP)	-	Restored retroactively
	Livestock Forage Disaster Program (LIP)	-	Restored retroactively
	Emergency Livestock Assistance Program (ELAP)	-	Restored retroactively
	Tree Assistance Program (TAP)	-	Restored retroactively
Export credit guarantees	Export Credit Guarantee Program (GSM-102)	-	Maintained; amendments include: • Maximum tenor reduced to 24 months • Flexibility given to the US Secretary of Agriculture to adapt the programme pursuant to the 2014 Memorandum of Understanding Related to the Cotton Dispute (WTO/DS267) between the United States and Brazil
Sugar	Sugar Program	-	Maintained (unchanged); • Includes price support and supply control measures
Dairy	Margin Protection Program for Diary Producers	-	New • Subsidized insurance of milk margins (US$4-8/cwt) • Payments are made when milk margin declines below (insured) level of US$4-8/cwt • Decoupled from actual production
	Dairy Product Donation Program	-	New • CCC dairy product purchase programme for distribution to low-income people in times of low margins (US$4/cwt or below) • Time-limited market support purchases at prevailing market prices
	Federal Milk Marketing Orders	-	Maintained (unchanged)

Source: WTO document WT/TPR/S/307/Rev.1

D.3   Switzerland

Swiss agricultural policy pursues diverse objectives, prioritising market-oriented agriculture, food security and sustainable environmental objectives. The Swiss Constitution explicitly directs the Swiss Government to support agriculture's multiple objectives through for example, direct payments linked to environmental cross-compliance. The geographic and topographical nature of Switzerland means that roughly half of Swiss farms are in hilly or mountainous regions, and Switzerland aims to address this geographic disadvantage through direct payments.[62] Switzerland's key domestic support instruments are (i) direct payments and (ii) subsidies and other government expenditures for market support measures.

Switzerland implements 3-year policy frameworks for agriculture. The Agricultural Policy (AP) for 2014-17 is a refinement and reallocation of the direct payments system. The aim is to reallocate some of the subsidies from livestock and dairy production to the arable sector and marginal areas, and to address conflicts with WTO Green Box criteria. [63]

Under Switzerland's 2014-17 policy the direct payments scheme comprised a set of 13 measures, consisting of seven categories of payments, each targeted to a specific policy objective, summarized in the following table.

Types of direct payments for agriculture

Category		Description
Payments for ensuring food security	Basic payment	Payment for which virtually the entire agricultural area of 1 million hectares is eligible (CHF 900 per hectare), including permanent pastures but excluding the summer pasturing area. The basic payment for ensuring food security is reduced for farms larger than 60 ha. The basic payment is no longer tied to the number of animals but is based on acreage with a minimum stocking density.
	Payment under difficult production conditions	Provides additional support for producers in the hilly and mountainous zones (ranging from CHF 240 to CHF 360/ha). About 60% of the total agricultural area is eligible.
	Payment for open arable land and permanent crops	Payment is CHF 400/ha, which is a pre-existing measure that raises the level of support for the arable sector compared with the pasture-based livestock sector (dairy).
Farmland payments		The objective is to maintain a cultivated agricultural landscape in the hilly and mountainous areas. Four of the six measures are per-hectare payments that are tiered according to the slope of the terrain and are conditional on landscape stewardship measures by farmers. The higher the location of the farm, the higher the direct payment. On the summer pasturing area (covering about 465,000 hectares), the "summer pasturing payments
Payments for production systems		These systems are intended to encourage environment-friendly or animal welfare-friendly methods of production. This DP category contains four pre-existing measures and one new incentive: • Payments for organic agriculture • Payments for extensive cereal and rapeseed production • Payments for pasture-based dairy and meat production • Animal welfare payments for outdoor systems and livestock housing systems
Biodiversity payments		The incentives cover, for example, the extensive use of pastures and meadows; hedges; or fallowing (CHF 3,300/ha). Payments comprise three pre-existing environmental measures which have been re-arranged under this DP category with enhanced incentives in some cases (CHF 450-3,800/ha).

---

[62] Switzerland TPR, Report by the WTO Secretariat, September 2017.

[63] Switzerland TPR, Report by the WTO Secretariat, September 2017.

Category	Description
Payments for landscape quality	A new incentive for regional projects, which are co-financed by the Federation (90%) and the cantons (10%).
Resource efficiency payments	Comprise three new incentives for emission-reducing application techniques of manure; precision application of pesticides; and reduced tillage methods. The pre-existing incentives for resource protection projects (water conservation) have been maintained.
Transitional payments	Payments are intended to make the change to the new DP system socially acceptable. Farmers are compensated for any shortfall in annual direct payments after 1 January 2014. The transitional payments are to be phased out over in 2021. Transitional payments are reduced from a level of income of CHF 80,000 and assets of CHF 0.8 million.

Source: Switzerland TPR, Report by the WTO Secretariat, September 2017.

Switzerland's WTO notifications indicate price support through applied administered prices for a range of meat products (including poultry) and 15 other basic agricultural products.[64]

D.4   Brazil

Brazil is endowed with the world's fourth-largest agricultural area, of which over a quarter is arable. Given this endowment, Brazil is a major exporter of various products, and the Government has made a conscientious effort to ensure that this industry receives adequate support. Brazilian agricultural policy objectives primarily consist of support measures focused on improving agricultural output and production rates (such as soil correction and recovery and mechanization) and supporting investment into these areas. This is supported through three main components: a market price policy, a focus on rural credit and crop insurance subsidies. Other important policy measures highlighted by the WTO include land zoning and the promotion of biofuels and organic production.[65]

The WTO notes that domestic support to agricultural producers remains low, especially in comparison to other major agricultural producers and economies. The WTO highlights that agricultural / rural credit at preferential interest rates is the major policy instrument for the agriculture sector; and is provided to both commercial and small-scale family farms. This policy objective seeks to widen and cheapen access to finance for farmers who would not otherwise participate in the domestic financial system.[66]

Since 1966, Brazil has also maintained a policy of guaranteed minimum prices. Under this policy element, regionally-set minimum guaranteed prices cover a broad range of crops (including rice, wheat, maize, cotton, soybeans, cow and goat milk). Based on this policy, the national government implements a range of price support mechanisms. This includes direct government purchases options contracts backed by private risk premium options. In addition, producers receive various reduced-interest marketing loans.[67]

---

[64] Switzerland TPR, Report by the WTO Secretariat, September 2017. Interestingly, the WTO highlights that Swiss authorities claim that Switzerland does not apply administered prices. Rather, "observed" prices as close as practicable to the first point of sale are used to calculate support.

[65] Brazil TPR, Report by the WTO Secretariat, October 2017.

[66] Brazil TPR, Report by the WTO Secretariat, October 2017.

[67] Brazil TPR, Report by the WTO Secretariat, October 2017.

Other measures to support agriculture production in Brazil

Measure	Description
Agricultural / rural insurance	Agricultural insurance support is provided to producers through four main programmes. These programmes are either insurance premium subsidies covering the difference between a fixed premium and market rates or programmes compensating farmers for production losses due to natural disasters. Two of the programmes target larger, commercial farmers, the other two target small-scale / family farms. The operation of these risk management programmes is currently shared among federal institutions, including some Ministries and the Central Bank.
Advance sale facilities	Two facilities allowing farmers to cash in their products prior to sale are operated by the state-owned Banco do Brasil and/or other private or state-owned financial institutions. The Rural Product Certificate (CPR) continues to allow producers to sell their crops prior to the harvest and thus obtain resources to finance rural activities. The "CPR Financeira" allows for liquidation in cash and is often used as collateral for acquiring credit. Farmers may obtain guarantees for the CPR. Farmers and cooperatives which sell their products in the futures market may access credit lines by discounting a rural promissory note (NPR) or a rural duplicate (DR), which allow them to receive proceeds from the sale before the harvest.
Zoning, land and other requirements	Agricultural zoning requirements continue to link agricultural support to environmental sustainability. They condition producers' eligibility for concessional credit and subsidized insurance programmes. Compliance with zoning applies to all concessional credit and all insurance premium subsidies for any product covered by the zoning. In addition, several specific programmes for both the commercial and family farm segments promote sustainable agricultural practices; they include credit for plantings on unproductive and degraded soils, credit for forest planting, and credit to modernize production systems and preserve natural resources.

Source: Brazil TPR, Report by the WTO Secretariat, October 2017.

D.5   India

India's most recent TPR highlights that, given the large numbers engaged in agricultural activities, the per capita support to farmers is substantially below the levels of support provided by developed countries. India also has a large rural base and as such policy support is focused on small-scale farmers, rather than commercial / large-scale operations.[68]

From 2014, the Indian Department of Agriculture (DAC) aimed to restructure its existing agricultural schemes into 11 missions, summarized in the table below. The aim of this restructuring was to promote investment in agriculture, improve incomes and productivity and widen the use of modern technology and resource efficient methods. In addition to this, India also supports the farm sector through output price support programmes (which includes minimum support prices), input support programmes (primarily focusing on fertilizers, utility inputs and seeds) and credit and insurance schemes.

Agriculture sector programmes

Programme	Purpose
National Mission for Sustainable Agriculture (NMSA)	Seeks to address issues of "sustainable agriculture" in the context of climate change by devising appropriate strategies for ensuring food security, enhancing livelihood opportunities, and contributing to economic stability at national level. Aims at enhancing agricultural productivity in raid-fed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.

---

[68] India TPR, Report by the India, April 2015.

Mission for Integrated Development of Agriculture (MIDH)	Aims at holistic growth of horticulture sector covering fruits, vegetables and flowers with a view to augmenting farmers' income and nutritional security.
National Mission on Oilseed and Oil Palm (NMOOP)	Aims at ensuring edible oil security through production improvement of traditional oilseed and tree-borne oilseed.
National Mission on Agricultural Extension and Technology (NMEAT)	Seeks to restructure, strengthen and promote agricultural extension to enable use of appropriate agro-technology and improved agronomic practices to farmers
National Food Security Mission (NFSM)	Seeks to ensure food security by reducing gaps between potential and actual yields and by providing extension and promotion services to agriculture and rural community.
Rashtriya Krishi Vikas Yojana (RKVY)	Seeks to promote public investment in agriculture and related sectors by the states, and provide flexibility and autonomy to states for planning and executing programmes/projects.
Modified National Agriculture Insurance Scheme (MNAIS)	Aims at providing relief to the farmers from crop failure due to natural disasters, pests and diseases.
Integrated Scheme for Agricultural Marketing (ISAM)	Seeks to promote: (i) creation and improvement of marketing infrastructure, (ii) capacity-building of stakeholders, and (iii) access to market information.
Integrated Scheme for Agricultural Cooperation (ISAC)	Seeks to promote cooperative action in agriculture by: (i) capacity-building of cooperatives to undertake value addition; (ii) providing managerial and technical inputs including training; (iii) fostering diversification of activities; and (iv) boosting creation of cooperative storage/cold facilities.
Integrated Scheme on Agriculture Census and Statistics (ISAC&S)	Aims at collecting statistics relating to the agricultural holdings, land use, cropping patterns, irrigation status, tenancy, and deriving facets of agriculture in the country.
Secretariat Economic Services	Aims at carrying out agro-economic evaluations and research and providing expert services to the department on various economic and statistical issues.

Source: India TPR, Report by the WTO Secretariat, September 2015.

Some of the most significant policy instruments used by the government for supporting farmer livelihoods (and for food security purposes) are the range of price support and control policies that are in force. The table below summarises some of the domestic schemes implemented by India. In addition to this minimum export prices are also implemented to control prices and availability in the domestic market.

Price support schemes offered for agricultural purposes

Price support scheme	Description
Market intervention scheme	Price support for other crops, input subsidies for fertilizers, power and water, as well as food subsidies (through the targeted public distribution system).
Price support scheme (PSS)	When prices of the relevant commodities fall below the minimum support price (MSP), government-designated agencies intervene in the market to purchase at the MSP
State advisory price (SAP)	If the SAP is higher than the FRP, the State Government bears the loss.

Source: India TPR, Report by the WTO Secretariat, September 2015.

The minimum support price scheme is amongst the most important of these price support mechanisms. Food grains are procured from farmers at the minimum support price for the public distribution system. On an annual basis, minimum support prices for major agricultural

commodities are announced, after taking into account the recommendations of the Commission for Agricultural Costs and Prices (CACP).[69]

In terms of access to finance India implements a number of programmes to both widen access to credit and to lower the cost of finance for farmers. This includes targeted set-asides for commercial banks in terms of the credit that must be allocated to the agriculture sector, credit rehabilitation packages for distressed farmers and preferential long- and short-term financing schemes implemented by a number of national and regional agencies.[70]

D.6   China

China's most recent TPR notes that it considers the agricultural sector a key sector, with long-term stability and sustainability motivating factors for the focus on this sector. It highlights that government intervention in the agricultural sector is primarily for food security, farmer income support and agricultural modernization purposes.[71]

China's support and intervention programmes are mainly focused on subsidising inputs, direct subsidies to farmers and for general agricultural support. The main subsidies and programmes are summarised in the following table. Historically, China has had a relatively stable intervention programme guiding subsidies on agriculture, rural community and farmers. However, according to the latest WTO TPR, China is in the process of restructuring its overall agricultural subsidy policy. The aim of this reform is to protect the land and attain food security.[72]

Main Agricultural subsidies/programmes in China

Agricultural Subsidy	Description
Direct Subsidy to Farmers	The subsidy is a direct subsidy for grain producers. The subsidy was implemented in 2004 as a replacement subsidy for the grain marketing subsidy. Subsidies are paid at a flat rate per unit of land planted. The payment is provided to the person who holds the contract rights to the land, not to the person who cultivates the land.
Comprehensive Subsidy for Agricultural Inputs	The objective of the centrally funded Comprehensive Subsidy on Agricultural Inputs, introduced in 2006, is to compensate grain producers for any increase in the price of agricultural inputs, such as fertilizer and diesel fuels; however, it is implemented as a payment per unit of land, and it is not linked to the cost of production
Subsidy for Promoting Superior Strains and Seeds	The subsidy covers 10 major crops such as rice, wheat and maize throughout China, and soya beans, rapeseed, cotton, potatoes, highland barley and peanuts, in specific areas of the country. The application of the subsidy varies according to the type of seed. The subsidy for improved breeds of livestock and poultry was initiated in 2005, covering dairy cattle, live pig, beef cattle, sheep and goat.

---

[69] India TPR, Report by the WTO Secretariat, September 2015.

[70] India TPR, Report by the WTO Secretariat, September 2015.

[71] China TPR, Report by China, October 2016.

[72] WTO. 2016. Trade policy review. WT/TPR/S/342/Rev.1

Agricultural Subsidy	Description
Subsidy for Purchasing Agricultural Machinery and Tools	One of the goals of the programme is to increase the level of mechanization in the production of grains, cotton, oilseeds, and sugar. Machinery is subsidized at rates between 20% and 30% of the sale price. This subsidy applies throughout China, and may vary from province to province but not within a province.

Source: Ministry of Agriculture and rural affairs of the People's Republic of China website, Agriculture in China, http://english.agri.gov.cn/overview/201703/t20170301_247343.htm.

Historically, China has also maintained extensive price controls for agricultural products, including grains, cotton, edible vegetable oil (materials), sugar, silk and tobacco leaf. While China has gradually liberalised prices on these agricultural goods, minimum price schemes in major commodities, such as rice and wheat, continue to exist.[73]

---

[73] China TPR, Report by the WTO Secretariat, October 2016.

Appendix E   Domestic support under WTO AoA framework

E.1   EU

The following table provides a profile of the composition of domestic support provided by the EU over a five-year period to show the extent to which (if any) box shifting has taken place, based on the latest notification by the EU. *De minimis* support (both product specific and non-product specific) over the five-year period is also provided.

Profile of composition of domestic support provided by the EU

Euro million / marketing year	Amber Box (excluding *de minimis support*)	Product-specific *de minimis* support	Non-product specific *de minimis support*	Blue Box	Green Box
2014/2015	6,642.3	867.7	965.3	2,878.8	65,256.8
2013/2014	5,971.7	1,054.9	945.9	2,663.6	65,023.8[74]
2012/2013	5,899.1	986.0	794.5	2,754.2	71,140.0
2011/2012	6,858.9	311.9	690.0	2,981.1	70,976.8
2010/2011	6,501.8	692.2	700.8	3,141.8	68,051.5

Source: Compiled from WTO Notifications.

Amber box support. EU spending over the period 2011-2015 on amber box support excluding de minimis support has been between Euro 5-7 billion with a simple average/marketing year of Euro 6.3 billion. In value terms the bulk of support has been in the form of MPS (e.g. with MPS for common wheat, skimmed milk powder and butter together accounting for Euro 4.3 billion of the Current Total AMS of Euro 6.6 billion for marketing year 2014/2015). Spending excluded under the *de minimis* rule (both product specific and non-product specific support) is approximately 28% of the Current Total AMS for marketing year 2014/2015.

Blue box support. Of all the trading partners analysed in this study the EU is the only partner providing support under the blue box over the five-year period analysed. The average spending per marketing year over that period is approximately Euro 2.8 billion. Of the Euro 2.8 billion spent on blue box support during the 2014/2015 marketing year, close to Euro 2 billion was spent on livestock payments on a fixed number of heads.

Green box support. The EU spent on average Euro 68 billion per marketing year over the five-year period from 2011 to 2015. In the 2014/2015 marketing year close to 50% of all green box payments were made in the form of decoupled income support for farmers (Euro 31.5 billion).

---

[74] See WTO document G/AG/N/EU/34/Corr.1 dated 15 February 2018, issued on 5 March 2018.

E.2 USA

The most recent notification by the USA, dated 25 April 2018, was issued on 1 May 2018. The notification concerns domestic support provided by the USA for the marketing year 2015[75]. The following table provides a profile of the composition of domestic support provided by the USA over a five-year period.

Profile of composition of domestic support provided by the USA

USD million /marketing year	Amber Box (excluding *de minimis support)*	Product-specific *de minimis* support	Non-product specific *de minimis support*	Blue Box	Green Box
2015	3,846.492	5,159.516	8,178.731	-	121,477.0
2014	3,809.925	4,249.434	5,532.507	-	124,483.0
2013	6,891.782	7,103.415	272.444	-	133,311.0
2012	6,860.015	7,579.625	309.318	-	127,441.0
2011	7,067.051	5,549.261	1,782.170	-	125,117.0

Source: Compiled from WTO Notifications.

Amber box support. US spending on amber box support excluding *de minimis* support has reduced from US$7 billion in 2011 to US$3.8 billion in 2015 – a reduction of almost 45%. Over the five-year period the US provided on average approximately US$ 5.7 billion of support per marketing year. In value terms almost 38% of Current Total AMS support for marketing year 2015 has been in the form of MPS benefitting only one product namely sugar (i.e. US$1.5 billion). Other major recipients of amber box support as part of Current Total AMS has been cotton (US$853 million) and wheat (US$854 million). Spending excluded under the *de minimis* rule (both product specific and non-product specific support) amounts to US$13.3 billion, almost 3,5 times the spending reported as part of the Current Total AMS for marketing year 2015. Maize received support worth US$2.3 billion and soybeans US$ 1.3 billion as part of de minimis support during that marketing year.

Green box support. The USA spent on average US$126 billion per marketing year over the five-year period from 2011 to 2015 on green box support. In marketing year 2015, US$104 billion of the total of US$121 billion (i.e. 86%) of support was in the form of domestic food aid (e.g. child nutrition programs, supplemental nutrition assistance programs etc.). Unlike the EU, decoupled income support to farmers formed a relatively small share of total green box support viz US$543 million (0.4%). The other major type of green box support was related to environmental payments (e.g. the Conservation Reserve Program, Conservation Stewardship Program etc.). A total of US$4.6 billion was spent on these types of programs.

---

[75] See WTO document G/AG/N/USA/121.

E.3   India

The most recent notification by India, dated 19 July 2018, was issued on 20 July 2018. The notification concerns domestic support provided by India for the marketing year 2016-2017.[76] The table below provides a profile of the composition of domestic support provided by India over a five-year period to show the extent to which (if any) box shifting has taken place. *De minimis* support (both product specific and non-product specific) over the five-year period is also provided.

Profile of composition of domestic support provided by India

USD millions/ marketing year	Amber Box[77] (excluding *de minimis* support)	Product-specific *de minimis* support	Non-product specific *de minimis* support	Development Box (Brown)[78]	Green Box – calendar year
2016-2017	0	2,103.71	2,652.52	22,831.27	19,084.41
2015-2016	0	1,171.01	333.95	23,553.22	18,370.87
2014-2015	0	1,918.51	366.18	24,835.80	20,830.06
2013-2014	0	1,212.73	379.17	22,827.78	18,361.83
2012-2013	0	2,368.04	422.55	24,172.53	18,741.12

Source: Compiled from WTO Notifications.

Amber box support. India reported nil spending under amber box over the period analysed. However, as in the case of Brazil one has to consider payments made, but excluded from the calculation of Current Total AMS to reveal actual support provided by India over the marketing years 2013 – 2017. For example, for the marketing year 2016-2017 India spent US$2.1 billion in product-specific support (100% of which was in the form of MPS) and more than US$2.6 billion in non-product specific support (as insurance premium subsidies). Both these amounts were excluded from the calculation of amber box support on the basis of the de minimis rule. Over the five-year period India spent on average US$1.7 billion on exempted product-specific support and US$830 million on exempted non-product specific support. To this, one can also add spending under the development box (brown box – see below), which forms another carve-out from calculating the Current Total AMS or amber box support.

Green box support. India spent on average US$19 billion on green box support per calendar year over the five-year period from 2013 - 2017. In calendar year 2017 over US$16 billion was spent on public stockholding for food security purposes (84%). The balance of US$2.8 billion

---

[76] See WTO document G/AG/N/IND/13.
[77] Note: India has no specific total AMS reduction commitments in its schedule. Domestic support to agricultural producers was provided through operations of the Ministry of Agriculture and Farmers Welfare and other government agencies. All support is covered by the domestic support categories which are exempt from reduction commitments under the Agreement on Agriculture.
[78] Note: As per the agricultural census for 2010-2011, 99.297% of farm holdings are of low-income or resource poor farmers.

was spent in support of General Services, the bulk of which was spent on Research (31%); Extension and advisory services (30%) and Infrastructure (23%).

Brown box support. India's support provided under the brown box even exceeded its spending in terms of the green box. India provided on average US$23 billion per calendar year over the five-year period analysed. During calendar year 2017 an amount of US$22 billion was provided in form of other input subsidies (i.e. for irrigation, fertilizers and electricity).

E.4   Switzerland

The most recent notification by Switzerland, dated 2 February 2018, was issued on 7 February 2018. The notification concerns domestic support provided by Switzerland for the calendar year 2014.[79] The following table provides a profile of the composition of domestic support provided by Switzerland.

Profile of composition of domestic support provided by Switzerland

CHF million /calendar year	Amber Box	Product-specific *de minimis* support excluded	Blue Box	Green Box
2014	1,363.0	10.5	-	2,754.5
2013	2,556.0	6.2	-	3,820.90
2012	2,212.1	-	-	3,833.61
2011	2,375.0	-	-	3,777.62
2010	2,437.4	-	-	3,828.1

Source: Compiled from WTO Notifications.

Amber box support. Spending by Switzerland on amber box support varied between CHF2.4 billion (2010) and CHF1.3 billion (2014). Average amber box support over the five-year period 2010 – 2014 is about CHF2.1 billion. In the last reported calendar year (2014) Switzerland's non-product specific AMS (i.e. CHF1 billion) exceeded the allowable 5% of value of production (i.e. the *de minimis* rule) and hence was included as part of its Current Total AMS. Non-product specific support for that year represented almost 74% of the Current Total AMS. For the other calendar years, the Current Total AMS was made up exclusively of non-excluded product-specific support. Only for calendar years 2013 and 2014 did Switzerland report product-specific support excluded from the Current Total AMS due to the de minimis rule (i.e. CHF6.2 million and CHF 10.5 million respectively).

Green box support. Switzerland spent on average CHF3.6 billion per calendar year over the five-year period from 2010 – 2014 on green box support measures. For calendar year 2014 35% of green box spending was in support of Environmental Programmes, 28% in support of General Services and 22% on Regional Assistance Programmes.

---

[79] See WTO document G/AG/N/CHE/84.

E.5 Brazil

The most recent notification by Brazil, dated 7 February 2018, was issued on 14 March 2018. The notification concerns domestic support provided by Brazil for the crop year 1 July 2015 – 30 June 2016[80]. The following table summarises the domestic support provided by Brazil based on its WTO notifications.

Profile of composition of domestic support provided by Brazil

USD Thousand/ crop year (unless otherwise specified)	Amber Box (excluding *de minimis support*)	Product-specific *de minimis* support	Non-product specific de minimis support	Development Box (Brown)	Green Box – calendar year
1 July 2015-30 June 2016	0	68,909.4	2,068,663.1	732,306.1	1,951,891.3
2014/2015 - agricultural year	0	177,932.7	1,724,558.8	1,312,521.7	1,634,416.9
2013/2014 - agricultural year	0	399,520.4	2,269,941.3	1,875,293.3	4,295,265.0
2012/2013 - agricultural year	0	320,593.6	2,109,571.7	1,069,974.7	6,199,413.0
2011/2012 - agricultural year	7,695.29	236,703.1	2,364,186.1	1,039,741.1	4,771,497.5

Source: Compiled from WTO Notifications.

Amber box support. Brazil reported nil spending under amber box over the period analysed, except for agricultural year 2011/2012 when Brazil spent US$7.7 million on Current Total AMS. However, considering payments made that are excluded from the calculation of amber box support reveals a more complete picture of the support provided by Brazil over the agricultural years 2012 – 2016. For example, for the crop year July 2015 – June 2016 Brazil spent US$68 million in product-specific support and more than US$2 billion in non-product specific support. Both these amounts were excluded on the basis of the de minimis rule. Over the five-year period Brazil spent on average US$240 million on exempted product-specific support and US$2.1 billion on exempted non-product specific support. To this one can also add spending under the development box (brown box – see below), which forms another carve-out from calculating the Current Total AMS or amber box.

Green box support. Brazil spent on average US$3.7 billion on green box support per calendar year over the five-year period from 2012 to 2016. In calendar year 2016, US$982 million of the total of US$1.9 billion (i.e. 50%) of green box support was for Domestic Food Aid (of which 100% was in support of meals for children in public schools). A total of 34% (US$670 million) support was spent on General Services (of which 44% was in support of Extension and Advisory Services to producers).

---

[80] See WTO document G/AG/N/BRA/48.

Brown box support. Brazil spent in excess of US$1 billion on brown box support for four of the five years covered by the analysis. The average spending over the period 2012 – 2015 has been US$1.3 billion. During crop year 2015/2016 an amount of US$732 million was spent. The bulk of spending under the brown box (i.e. US$ 561 million or 76%) was for investment subsidies generally available to agriculture (e.g. investment credit directed to improve rural structure, acquisition of machines, equipment, vehicles and animal services).

E.6   China

The most recent notification by China, dated 5 May 2015, was issued on 6 May 2015. The notification concerns domestic support provided by China for the calendar years 2009 and 2010[81]. The table below provides a profile of the composition of domestic support provided by China during calendar year 2010. *De minimis* support (both product specific and non-product specific) for calendar year 2010 is also provided.

Profile of composition of domestic support provided by China

Hundred million RMB yuan	Amber Box[82] (excluding *de minimis* support)	Product - specific *de minimis*	Non-product specific *de minimis*	Development Box (Brown)[83]	Green Box	Blue Box
2010	0	253.51	976.64	0	5,346.32	0

Source: Compiled from WTO Notifications.

Amber box support. China has no AMS commitments in its Schedule made when China acceded to the WTO. All domestic support is provided through measures that are exempt from reduction according to the AoA. The 2015 notification reported on the 2009 and 2010 calendar years. Due to the dated nature of the information, the study only analysed data from 2010 onwards. China reported Nil Current Total AMS support for that calendar year. However, it did provide product-specific and non-product specific support to the value of RMB yuan 253.51 hundred million and RMB yuan 976.64 hundred million respectively, both of which amounts were exempted under the de minimis rule.

Green box support. China spent RMB yuan 5,346.32 Hundred million on green box support during calendar year 2010. The bulk of the spending was in support of General Services (47%, of which 45% was spent on infrastructure), Environmental Programmes (17%) and Public Stockholding for security purposes (14% including stockholding of sugar, maize and wheat).

---

[81] See WTO document G/AG/N/CHN/28.

[82] See WTO document G/AG/N/CHN/28, Table DS:1, Note 1.: China's AMS commitment is nil in the Schedule made in its accession. All domestic support is provided through measures that are exempt from reduction according to the Agreement on Agriculture.

[83] See WTO document G/AG/N/CHN/28, Table DS:2, Note 1.: According to the Schedule, China can provide support through measures of the types described in Article 6.2 of the Agreement on Agriculture. But the amount of such support will be included in China's calculation of its AMS.

Appendix F   OECD indicators used in the analysis

The following sections rely heavily on the OECD publications on agricultural support, and in particular the "Introduction to PSE indicators". The objective is to provide a summary of the OECD methodology used in calculating estimates of producer support.

The OECD uses a number of indicators by which the level and composition of support provided to the agricultural sector is monitored and evaluated. In determining farm support using these indicators the focus is on policies which results in transfers between a source and recipient. The indicators identify three economic groups namely the taxpayer (i.e. the government), the consumer and the agricultural producer(s).[84]

Agricultural producers as an economic group is further subdivided between policies favouring individual producers and those benefiting agricultural producers as a whole. The transfers between source and recipient captured in the various OECD indicators is graphically explained by the OECD in the following figure.

Flow of transfers, OECD measures of agricultural support
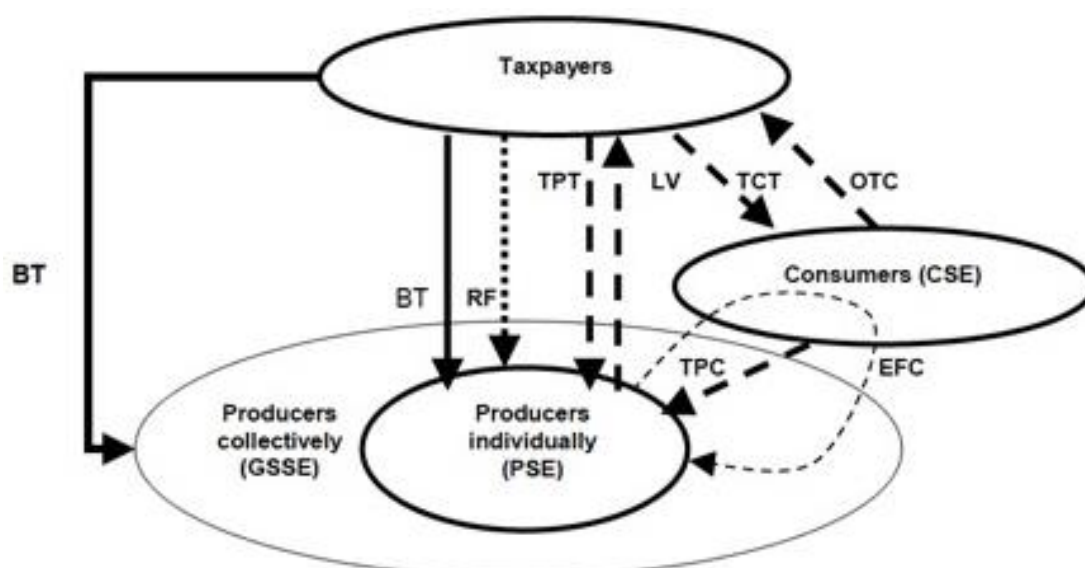
Source: "Introduction to PSE indicators".
BT = Budgetary Transfers, RF = Revenue Foregone, TCT = Transfers to Consumers from Taxpayers, TPT = Transfers to Producers from Taxpayers, TPC = Transfers to Producers from Consumers, EFC = Excess Feed Cost, LV = Price Levies, OTC = Other Transfers from Consumers,

The arrows represent transfers between various sources and recipients. Transfers between the taxpayer and agricultural producers takes the form of explicit budgetary transfers / outlays (represented by the solid arrows). It could also take the form of implicit transfers from the budget in the form of revenue foregone ('RF') represented by the dotted arrow lines.[85]

---

[84] See "Introduction to PSE indicators".

[85] Excess Feed Costs according to the OECD is "is a component accounting for the price transfers that go from livestock producers to cereal producers as a result of policies which alter the domestic market price for feed crops, and is included only in the calculation of MPS for livestock commodities". The OECD explains Price Levies as "an observed value, obtained from budgetary sources, including levies paid by producers to help finance export subsidies and penalties for exceeding production quotas". Examples Revenue Foregone of transfers are support through tax concessions and fee reductions lowering farm input costs (i.e. investment credit, energy or water).

Transfers can also take the form of market price transfers represented by the dashed lines in the illustration. Important for understanding the classification by the OECD of measures of support are the implementation criteria (i.e. conditions and/or eligibility requirements) subject to which transfers to individual farmers take place. Several categories have been constructed to identify implementation criteria. The categories identify: [86]

- the transfer basis for support;
- whether support is based on a current or a non-current (fixed or historical) basis; and
- whether commodity production is required or not[87].

On this basis, a number of first-order categories have been constructed each with its own 'sub-categories' as described in the following table.[88]

Categories of implementation criteria for farm support

First order categories	Sub-category
A. Support based on commodity output (CO)	A1. Market Price Support (MPS) - transfers from consumers and taxpayers to agricultural producers arising from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level.
	A2. Payments based on output (PO) - transfers from taxpayers to agricultural producers from policy measures based on current output of a specific agricultural commodity.
B. Payments based on input use (PI)	B1. Payments based on variable input use (PIV) - transfers reducing the on-farm cost of a specific variable input or a mix of variable inputs.
	B2. Payments based on fixed capital formation (PIF) - transfers reducing the on-farm investment cost of farm buildings, equipment, plantations, irrigation, drainage and soil improvements.
	B3. Payments based on on-farm services (PIS) - transfers reducing the cost of technical, accounting, commercial, sanitary and phyto-sanitary assistance, and training provided to individual farmers.
C. Payments based on current Area/Animal numbers/Receipts/Income, production required	C1. Payments based on current R/I, production required (PC).
	C2. Payments based on current A/An, production required (PC).
D. Payments based on non-current A/An/R/I, with current production of any commodity required	D. Payments based on non-current A/An/R/I, production required (PHR)

---

[86] See "Introduction to PSE Indicators".

[87] See "Introduction to PSE Indicators", p.5.

[88] 'Labels' have been created for each of these Sub-categories. The OECD explains: "Each policy measure is also assigned several *labels* that provide additional details on policy implementation. The six labels contain information on whether constraints are placed on output and payment levels or input use. They also further specify the basis of transfer, its commodity specificity and variability of payment rates".

First order categories	Sub-category
E. Payments based on non-current A/An/R/I, with current production of any commodity not required but optional	E1. Payments with variable rates (PHNR) - payment is defined as subject to a variable rate where the formula determining the level of payment is triggered by a change in price, yield, net revenue or income, or a change in production cost.
	E2. Payments with fixed rates (PHNR)
F. Payments based on non-commodity criteria (PN)	F1. Long-term resource retirement (PNLT) - transfers for the long-term retirement of factors of production from commodity production. The payments in this sub-category are distinguished from those requiring short-term resource retirement, which are based on commodity production criteria.
	F2. A specific non-commodity output (PNSO) - transfers for the use of farm resources to produce specific non-commodity outputs of goods and services, which are not required by regulations.
	F3. Other non-commodity criteria (PNOP) - transfers provided equally to all farmers, such as a flat rate or lump sum payment.
G. Miscellaneous (PM)	G. Miscellaneous (PM) - transfers from taxpayers to farmers for which there is insufficient information to allocate them among the appropriate categories.
H. Agricultural knowledge and innovation system	H.1. Agricultural knowledge generation: budgetary transfers financing research and development (R&D) activities related to agriculture, irrespective of the institution (private or public, ministry, university, research centre or producer groups) where they take place, the nature of research (scientific, institutional, etc.), or its purpose.
	H.2. Agricultural knowledge transfer: budgetary expenditure to finance agricultural vocational schools and agricultural programmes in high-level education, training and advice to farmers that is generic (e.g. accounting rules, pesticide application), not specific to individual situations, and data collection and information dissemination networks related to agricultural production and marketing.
I. Food inspection and control	I.1. Agricultural product safety and inspection: budgetary transfers financing activities related to agricultural product safety and inspection. This includes only expenditures on inspection of domestically produced commodities at first level of processing and border inspection for exported commodities.
	I.2. Pest and disease inspection and control: budgetary transfers financing pest and disease control of agricultural inputs and outputs (control at primary agriculture level) and public funding of veterinary services (for the farming sector) and phytosanitary services.
	I.3. Input control: budgetary transfers financing the institutions providing control activities and certification of industrial inputs used in agriculture (e.g. machinery, industrial fertilisers, pesticides, etc.) and biological inputs (e.g. seed certification and control).
J. Development and maintenance of rural infrastructure	J.1. Hydrological infrastructure: budgetary expenditure financing public investments into hydrological infrastructure (irrigation and drainage networks).
	J.2. Storage, marketing and other physical infrastructure: budgetary expenditure financing investments to off-farm storage and other market infrastructure facilities related to handling and marketing primary agricultural products (silos, harbour facilities – docks, elevators; wholesale markets, futures markets), as well as other physical infrastructure related to agriculture, when agriculture is the main beneficiary.

First order categories	Sub-category
	J.3. Institutional infrastructure: budgetary expenditure financing investments to build and maintain institutional infrastructure related to the farming sector (e.g. land cadastres; machinery user groups, seed and species registries; development of rural finance networks; support to farm organisations, etc.).
	J.4. Farm restructuring: budgetary payments related to reform of farm structures financing entry, exit or diversification (outside agriculture) strategies.
K. Marketing and promotion	K.1. Collective schemes for processing and marketing: budgetary expenditures financing investments in collective, mainly primary, processing, marketing schemes and marketing facilities, designed to improve marketing environment for agriculture.
	K.2. Promotion of agricultural products: budgetary expenditure financing assistance to collective promotion of agro-food products (e.g. promotion campaigns, participation on international fairs).
L. Cost of public stockholding	Cost of public stockholding: budgetary expenditure covering the costs of storage, depreciation and disposal of public storage of agricultural products.
M. Miscellaneous	Miscellaneous: budgetary payments financing other general services that cannot be disaggregated and allocated to the above categories, often due to a lack of information.

Source: Compiled from 'Table 1: PSE categories and labels', "Introduction to PSE Indicators", p 21 and pp.22-23.

These factors allow the OECD to calculate and interpret the composition of support provided to individual farmers. The OECD took each of these categories and determined, through its OECD's Policy Evaluation Model (PEM) on decoupling, the extent to which each of them influences production incentives for the farmer. It concluded as follows:

> *"T[t]hese policy measures [i.e. policy measures that deliver support directly related to the amount of a specific commodity produced (market price support and payments based on output) (Category A) or variable inputs used (Category B.1)] are the ones that potentially (ex-ante) have the strongest influence on production incentives, although this effect is weakened in those countries that place constraints on output produced, inputs used or farm practices adopted. Policy measures designed to deliver support based on the current parameters, such as area planted or animal numbers, and require commodity production (Category C) have a potentially weaker influence on production incentives. Policy measures providing support based on historical parameters, such as the overall farm area or income situation of the farmer, (Categories D and E) have potentially less influence on production decisions. Those that provide support based on non-commodity criteria (Category F), such as the planting of trees, construction of stone walls and hedges, have potentially the least influence on production incentives. Clearly, the actual impact (ex post) will depend on many factors that determine the aggregate degree of responsiveness of farmers to policy changes"[89].*

The OECD also breaks down the PSE into four separate indicators of support based on the degree to which policy measures deliver support on a commodity basis. A transfer is thus

---

[89] See "Introduction to PSE Indicators", p.14.

classified according to whether it is provided to a single commodity *e.g.* wheat (SCT), a group of commodities, *e.g.* cereals (GCT), all commodities (ACT), or whether the transfers are not related to commodity production (OTC). These four categories are mutually exclusive in the sense that transfers included in one category are not included in another.[90] The following table provides a summary of the OECD's method of calculation for indicators included in this report.

---

[90] See "Introduction to PSE Indicators", p.15.

Summary of relevant indicators

Indicator	Description	Formula	Relation to first order categories
Producer Support Estimate (PSE)	The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income.	The total value of PSE is the sum of total transfers to producers in the form of market price support policies (MPS) as well as all Budgetary and other Transfers (BOT): $PSE_c = MPS_c + BOT_c = MPS_c + (BT_c + RF_c)$	A + B + C + D + E + F + G
Producer Single Commodity Transfers (PSCT)	The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures directly linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the transfer.	The producer PSCT is the sum of MPS support for a specific commodity (i) and the BOT to producers of that specific commodity: $SCT_i = MPS_i + \sum BOT_i$	First-order categories of relevance to SCT are PSE categories A, B, C and D, but where policies support specific single commodities.
Group Commodity Transfers (GCT)	The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures whose payments are made on the basis that one or more of a designated list of commodities is produced, *i.e.* a producer may produce from a set of allowable commodities and receive a transfer that does not vary with respect to this decision.	The total GCT for a country as part of the total PSE is the sum of all BOT payments made in respect of all groups of commodities e.g. cereals as one group of commodities: $GCT_c = \sum BOT_{GCT}$	First-order categories of relevance to GCT are PSE categories A, B, C and D, but where policies support specific group commodities.
All Commodity Transfers (ACT)	The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice.	The total ACT for a country as part of the total PSE is the sum of all BOT payments made in respect of production, irrespective the specific commodity or group of commodities produced: $ACT_c = \sum BOT_{ACT}$	First-order categories of relevance to ACT are PSE categories A, B, C and D, but where policies support production of a commodity.

Indicator	Description	Formula	Relation to first order categories
Other Transfers to Producers (OTP)	The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that do not require any commodity production at all.	The total OTP for a country as part of the total PSE is the sum of all payments made irrespective whether production of any commodity takes place. These payments are made on the basis of PSE Category E and/or payments made on non-commodity criteria (PSE category (F)) and/or payments made for miscellaneous purposes (PSE category (G) (refer to Table 1)):	E + F + G
General Services Support Estimate (GSSE)	The annual monetary value of gross transfers to general services provided to agricultural producers collectively, arising from policies that support agriculture regardless of their nature, objectives and impacts on farm production, income, or consumption. The GSSE does not include any transfers to individual producers. These categories of general services allow the OECD to calculate and interpret the composition of support provided to farmers as a collective.	The total support for general services as part of the total support provided to the agricultural sector (i.e. TSE) is the sum of support provided under each of these categories: $GSSE_T = \sum GSSECategory$	H + J + K + L + M
Total Support Estimate (TSE)	The annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products.	The total support estimate is the sum of all support provided under policies aimed at individual agricultural producers (PSE); aimed at consumers of agricultural products (TCT – transfer to consumer from taxpayer) and those policies aim at agricultural producers in the collective (GSSE): TSE = PSE +GSSE + TCT	A + B + C + D + E + F + G + H + I + J + K + L + M + Transfers to consumers from taxpayers

Indicator	Description	Formula	Relation to first order categories
Gross Farm Receipts	A measure of farm turnover but including support	Gross farm receipts (GFR) is determined by adding the value of transfers to producers (PSE) and the value of production (VP) and subtracting MPS as this is included both in the PSE and VP values. $\%PSE_c = PSE_c/PSE_c + VP_c - MPS_c \times 100$ Another way of calculating GFR can be summing the value of production (VP) and the value of budgetary and other transfers (BOT) to producers: $\%PSE_c = PSE_c/VP_c + BOT_c \times 100$	
Gross Receipts	A measure of commodity-specific farm turnover, including support	Gross receipts for a particular commodity, similar to GFR, is calculated by adding market receipts (i.e. $VP_i - MPS_i$) to all policy transfers to that commodity (producerSCT$_i$): $\%SCT_i = MPS_i + \sum BOT_i/VP_i + producerSCT_i - MPS_i \times 100$	

Source: "Introduction to PSE indicators".

Appendix G   Country estimates of OECD PSCT

G.1   Estimates per tonne

PSCT for beef and veal, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	-0.95	9.14	13.97	19.75	56.28
China	-28.11	-10.89	42.30	935.88	919.67
EU	1,878.74	2,627.21	1,673.88	1,588.87	844.09
India	-174.86	-134.03	-573.43	-520.91	-492.93
Switzerland	3,561.95	4,692.67	4,199.21	2,994.79	4,080.11
USA	0.00	0.00	0.00	0.00	0.09
South Africa	-0.15	-0.03	0.00	0.00	0.00

Source: "The PSE database"(2018)

PSCT for poultry, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	-20.71	3.14	-8.57	3.43	-19.63
China	-3.62	65.34	146.18	104.49	92.58
EU	164.67	324.33	381.80	221.44	223.02
India	66.50	-4.51	-120.21	22.71	139.70
Switzerland	1,570.04	2,070.62	2,549.76	2,822.88	2,904.37
USA	0.44	0.00	0.74	0.00	0.00
South Africa	-0.23	-0.07	0.00	0.00	0.00

Source: "The PSE database"(2018)

PSCT for milk, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	3.78	1.34	1.50	50.19	4.02
China	101.86	20.38	-81.22	138.78	250.99
EU	116.66	156.51	52.27	6.09	16.91
India	-87.25	-129.82	-206.20	-154.46	-51.69
Switzerland	271.65	313.61	205.89	174.80	231.95
USA	137.26	98.29	0.09	56.31	71.64
South Africa	48.88	57.03	0.00	40.13	0.00

Source: "The PSE database"(2018) .

PSCT for maize, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	29.82	4.35	13.31	2.31	19.04
China	19.88	10.75	-31.32	47.25	82.87
EU	46.19	15.52	0.03	0.01	0.00
India	-14.29	-5.53	-80.83	-124.37	29.42
Switzerland	138.24	157.79	34.50	92.31	88.24
USA	10.92	9.89	7.02	10.42	5.75
South Africa	0.00	18.45	0.00	0.00	0.00

Source: "The PSE database"(2018)

PSCT for wheat, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	17.81	24.24	65.92	12.81	31.01
China	-18.01	-15.75	82.56	103.00	151.41
EU	15.42	10.07	1.34	0.26	17.86
India	-1.99	-25.59	-131.89	-142.41	27.99
Switzerland	215.93	143.58	82.86	123.05	166.85
USA	18.54	6.04	13.75	18.22	14.40
South Africa	14.18	0.30	0.00	0.00	2.78

Source: "The PSE database"(2018)

PSCT for soybeans, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	5.37	4.42	4.81	4.04	4.17
China	9.21	-25.19	-43.21	56.47	134.29
EU	1.55	0.23	19.48	0.00	0.00
India	26.62	-87.05	-14.86	-173.88	-163.81
USA	49.87	6.13	18.36	18.55	9.99

Source: "The PSE database"(2018)
Data for Switzerland, South Africa not available.

PSCT for cotton, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	55.02	37.40	406.90	30.66	87.70
China	-24.02	-45.81	206.94	966.81	1,707.86
India	-9.98	-114.20	-41.32	-160.42	-45.36
USA	398.11	475.21	470.53	156.72	138.46

Source: "The PSE database"(2018)
Data for EU, Switzerland, South Africa not available.

PSCT for sugar, US$ per tonne

	2000	2004	2008	2012	2016
Brazil	0.40	0.09	0.18	0.25	0.10
China	86.99	35.84	-0.56	131.25	342.17
EU	165.31	266.51	125.41	3.99	11.65
India	88.80	106.87	24.14	40.86	-6.76
Switzerland	328.98	458.25	327.84	182.57	200.59
USA	141.39	149.79	114.06	86.88	209.53
South Africa	3.66	10.57	8.85	10.24	5.28

Source: "The PSE database"(2018)

G.2   Estimates as % of GFR

PSCT for beef and veal, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	-0.1%	0.7%	0.5%	0.6%	2.1%
China	-2.2%	-0.7%	1.2%	13.0%	12.9%
EU	60.6%	59.9%	35.3%	31.5%	21.1%
India	-46.2%	-28.3%	-80.2%	-50.2%	-46.1%
Switzerland	68.0%	68.4%	50.6%	35.0%	45.6%
USA	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa	0.0%	0.0%	0.0%	0.0%	0.0%

Source: "The PSE database"(2018)
Data for India not available.

PSCT for poultry, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	-3.6%	0.5%	-0.8%	0.3%	-2.2%
China	-0.5%	7.7%	9.9%	5.4%	5.3%
EU	18.7%	28.2%	22.3%	12.6%	17.5%
India	8.6%	-0.6%	-11.7%	1.6%	10.0%
Switzerland	67.7%	71.8%	71.0%	69.6%	78.1%
USA	0.0%	0.0%	0.1%	0.0%	0.0%
South Africa	0.0%	0.0%	0.0%	0.0%	0.0%

Source: "The PSE database"(2018)
Data for India not available.

PSCT for milk, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	2.3%	0.8%	0.4%	11.3%	1.1%
China	43.6%	8.9%	-22.3%	26.6%	45.4%
EU	40.9%	41.3%	10.3%	1.4%	5.3%
India	-46.0%	-64.9%	-69.3%	-40.7%	-13.1%
Switzerland	60.1%	54.2%	29.8%	28.1%	39.0%
USA	49.9%	27.5%	0.0%	13.7%	19.9%
South Africa	26.1%	20.2%	0.0%	9.5%	0.0%

Source: "The PSE database"(2018)
Data for India not available.

PSCT for maize, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	25.5%	4.0%	5.9%	1.0%	10.2%
China	20.5%	9.0%	-15.5%	13.2%	29.8%
EU	30.6%	10.4%	0.0%	0.0%	0.0%
India	-16.5%	-5.0%	-47.2%	-54.3%	14.3%
Switzerland	47.7%	43.6%	9.2%	23.7%	23.8%
USA	13.0%	10.9%	4.2%	3.7%	4.2%
South Africa	0.0%	14.3%	0.0%	0.0%	0.0%

Source: "The PSE database"(2018)
Data for India not available.

PSCT for wheat, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	13.1%	14.9%	18.0%	4.4%	13.7%
China	-14.1%	-8.8%	34.7%	30.0%	45.1%
EU	13.1%	6.6%	0.5%	0.1%	9.3%
India	-1.5%	-18.4%	-56.7%	-63.7%	12.3%
Switzerland	49.6%	32.4%	15.5%	23.1%	32.9%
USA	16.1%	4.6%	5.2%	6.0%	9.1%
South Africa	8.4%	0.2%	0.0%	0.0%	1.1%

Source: "The PSE database"(2018)
Data for India not available.

PSCT for soybeans, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	3.3%	1.9%	1.2%	0.8%	1.2%
China	4.3%	-8.3%	-8.4%	7.6%	22.6%
EU	0.7%	0.1%	3.6%	0.0%	0.0%
India	11.8%	-32.0%	-3.7%	-30.3%	-38.9%
USA	23.0%	2.8%	4.8%	3.4%	2.8%

Source: "The PSE database"(2018)
Data for Switzerland, South Africa and India not available.

PSCT for cotton, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	5.5%	3.2%	24.4%	1.9%	5.6%
China	-1.9%	-3.5%	13.7%	34.4%	55.1%
India	-0.8%	-11.0%	-2.9%	-9.2%	-2.8%
USA	27.1%	35.4%	30.1%	8.6%	8.2%

Source: "The PSE database"(2018)
Data for EU, Switzerland, South Africa and India not available.

PSCT for sugar, % of value of farm receipts

	2000	2004	2008	2012	2016
Brazil	3.7%	1.0%	1.0%	0.7%	0.6%
China	47.3%	19.0%	-0.2%	21.2%	55.5%
EU	55.4%	65.4%	44.5%	1.5%	5.4%
India	25.9%	28.9%	5.6%	6.4%	-1.2%
Switzerland	73.7%	73.6%	48.5%	26.6%	34.1%
USA	49.6%	54.2%	33.6%	17.6%	50.6%
South Africa	19.5%	42.9%	29.1%	21.6%	15.8%

Source: "The PSE database"(2018)
Data for India not available.

Appendix H   Additional figures for OECD support

Components of PSE (% of PSE)
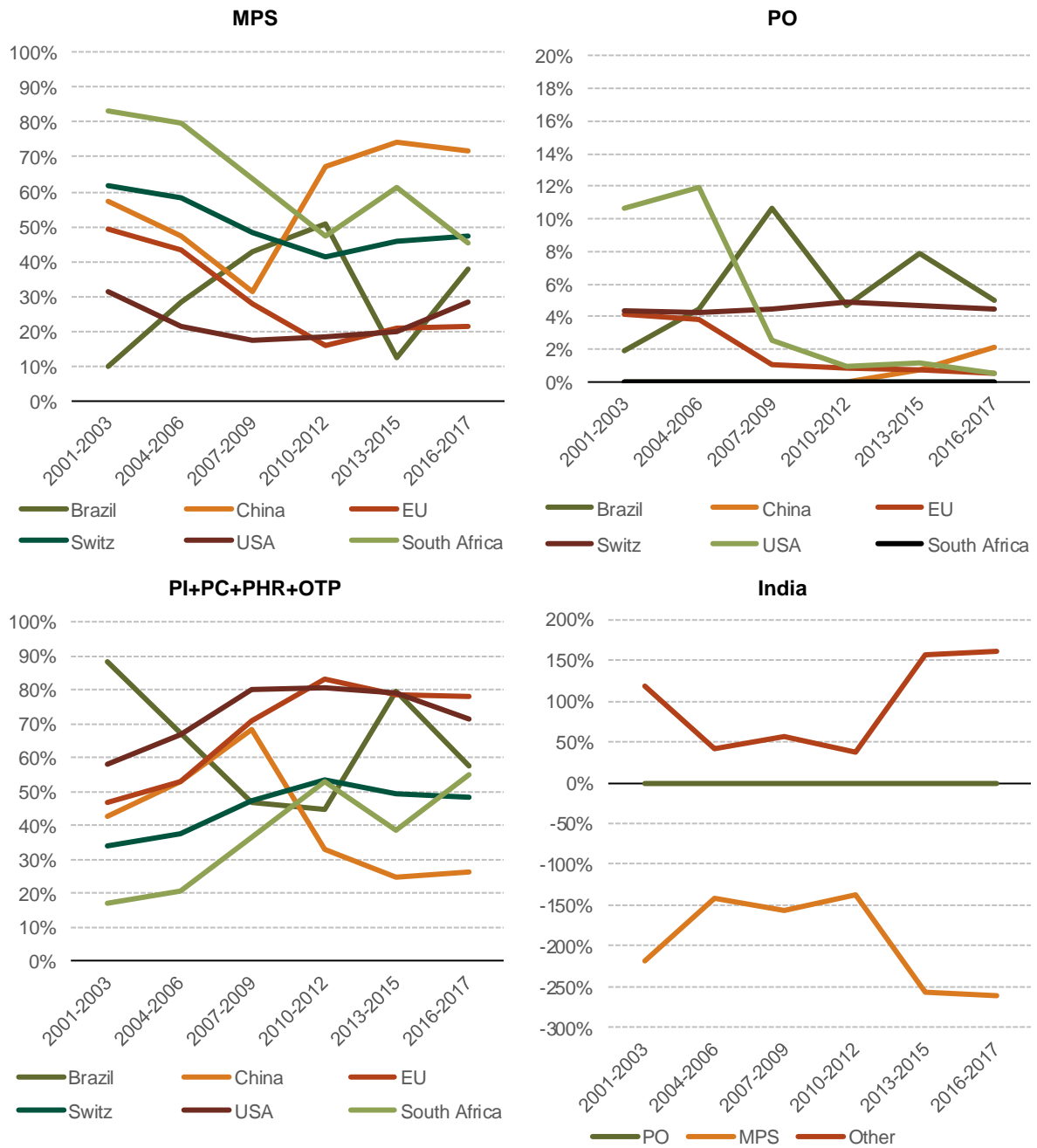
MPS

PO

PI+PC+PHR+OTP

India

Source: "The PSE database"(2018)
MPS = Market Price Support, PO = Payments based on output, PI = Payments based on input use, PC = Payments based on current A/An/R/I, production required, PHR = Payments based on non-current A/An/R/I, production required, OTP = Other Transfers to Producers (OTP).
Data for India reflects up to the 2016 year.

Components of TSE (% of TSE) (average for years)

PSE

Legend: Brazil, China, EU, Switz, USA, South Africa

GSSE

Legend: Brazil, China, EU, Switz, USA, South Africa

TCT

Legend: Brazil, China, EU, Switz, USA, South Africa

India*

Legend: PSE, TCT, GSSE
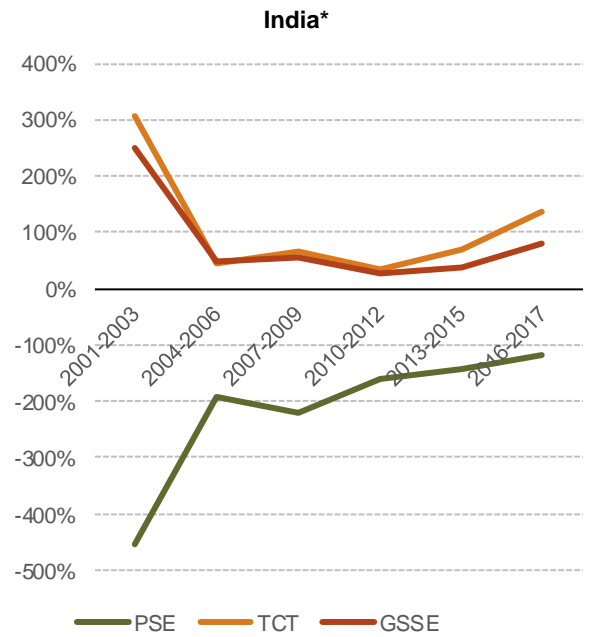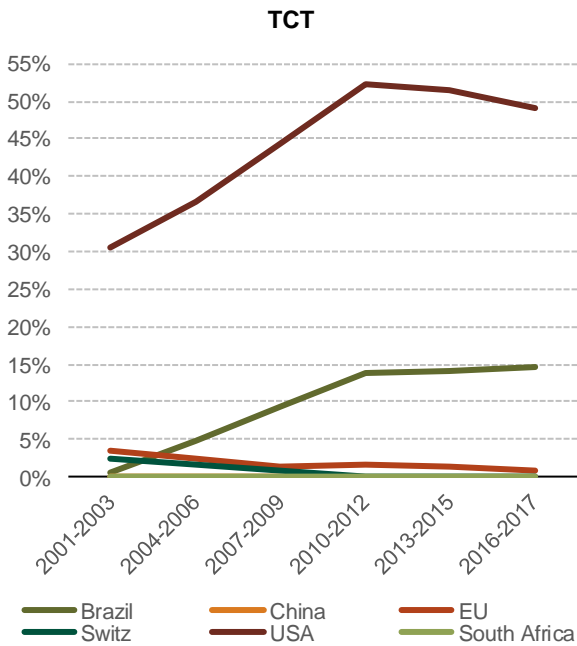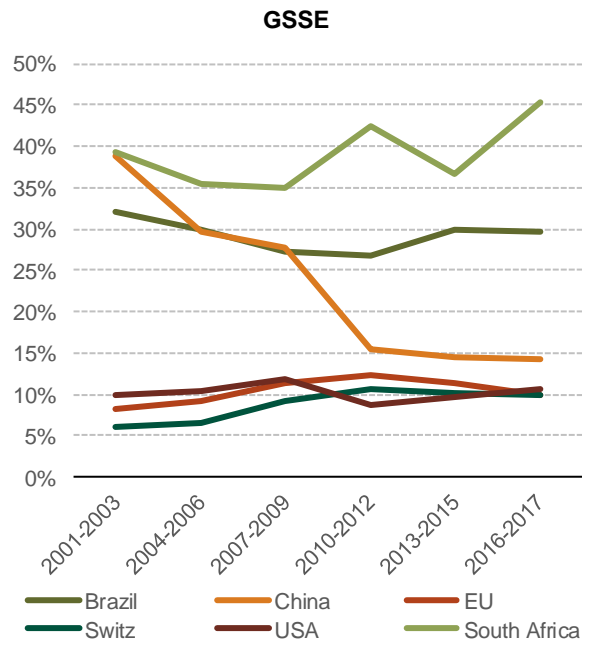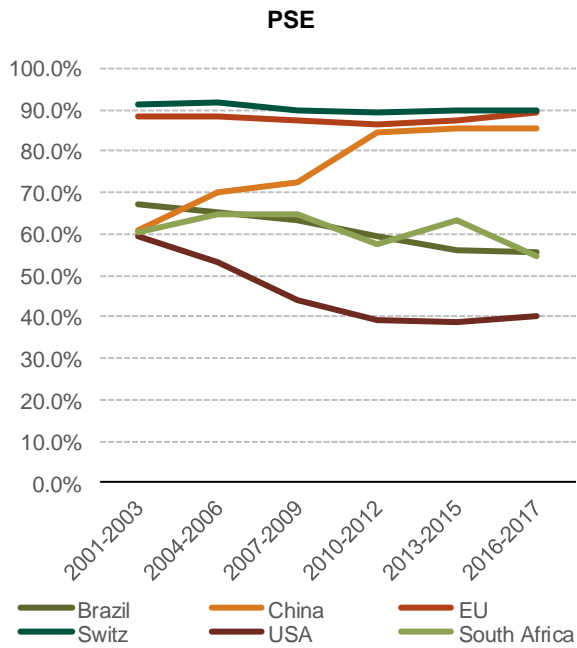
Source: Compiled from "The PSE database"(2018)

PSE = Producer Support Estimates, GSSE = General Services Support Estimates, TCT = Transfers to consumers from taxpayers, TSE = Total Support Estimates.

Data for India reflects up to the 2016 year.

Appendix I   Selected additional results from GTAP CGE analysis

I.1   Sectoral mapping for CGE scenario analysis

GTAP sector	Description	Aggregated mapping for CGE scenarios
pdr	Paddy Rice: rice, husked and unhusked	Other grains
wht	Wheat: wheat and meslin	Wheat
gro	Other Grains: maize (corn), barley, rye, oats, other cereals	Other grains
v_f	Veg & Fruit: vegetables, fruitvegetables, fruit and nuts, potatoes, cassava, truffles,	Other agriculture
osd	Oil Seeds: oil seeds and oleaginous fruit; soy beans, copra	Other grains
c_b	Cane & Beet: sugar cane and sugar beet	Sugar cane
pfb	Plant Fibres: cotton, flax, hemp, sisal and other raw vegetable materials used in textiles	Plant fibres
ocr	Other Crops: live plants; cut flowers and flower buds; flower seeds and fruit seeds; vegetable seeds, beverage and spice crops, unmanufactured tobacco, cereal straw and husks, unprepared, whether or not chopped, ground, pressed or in the form of pellets; swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches and similar forage products, whether or not in the form of pellets, plants and parts of plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes, sugar beet seed and seeds of forage plants, other raw vegetable materials	Other agriculture
ctl	Cattle: cattle, sheep, goats, horses, asses, mules, and hinnies; and semen thereof	Livestock
oap	Other Animal Products: swine, poultry and other live animals; eggs, in shell (fresh or cooked), natural honey, snails (fresh or preserved) except sea snails; frogs' legs, edible products of animal origin n.e.c., hides, skins and furskins, raw , insect waxes and spermaceti, whether or not refined or coloured	Livestock
rmk	Raw milk	Milk
wol	Wool: wool, silk, and other raw animal materials used in textile	Other agriculture
frs	Forestry: forestry, logging and related service activities	Forestry and fishing
fsh	Fishing: hunting, trapping and game propagation including related service activities, fishing, fish farms; service activities incidental to fishing	Forestry and fishing
coa	Coal: mining and agglomeration of hard coal, lignite and peat	Mining

GTAP sector	Description	Aggregated mapping for CGE scenarios
oil	Oil: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part)	Mining
gas	Gas: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part)	Mining
omn	Other Mining: mining of metal ores, uranium, gems. other mining and quarrying	Mining
cmt	Cattle Meat: fresh or chilled meat and edible offal of cattle, sheep, goats, horses, asses, mules, and hinnies. raw fats or grease from any animal or bird.	Meat products
omt	Other Meat: pig meat and offal. preserves and preparations of meat, meat offal or blood, flours, meals and pellets of meat or inedible meat offal; greaves	Meat products
vol	Vegetable Oils: crude and refined oils of soya-bean, maize (corn),olive, sesame, ground-nut, olive, sunflower-seed, safflower, cotton-seed, rape, colza and canola, mustard, coconut palm, palm kernel, castor, tung jojoba, babassu and linseed, perhaps partly or wholly hydrogenated,inter-esterified, re-esterified or elaidinised. Also margarine and similar preparations, animal or vegetable waxes, fats and oils and their fractions, cotton linters, oil-cake and other solid residues resulting from the extraction of vegetable fats or oils; flours and meals of oil seeds or oleaginous fruits, except those of mustard; degras and other residues resulting from the treatment of fatty substances or animal or vegetable waxes.	Vegetables and oils
mil	Milk: dairy products	Dairy
pcr	Processed Rice: rice, semi- or wholly milled	Other food products
sgr	Sugar	Sugar products
ofd	Other Food: prepared and preserved fish or vegetables, fruit juices and vegetable juices, prepared and preserved fruit and nuts, all cereal flours, groats, meal and pellets of wheat, cereal groats, meal and pellets n.e.c., other cereal grain products (including corn flakes), other vegetable flours and meals, mixes and doughs for the preparation of bakers' wares, starches and starch products; sugars and sugar syrups n.e.c., preparations used in animal feeding, bakery products, cocoa, chocolate and sugar confectionery, macaroni, noodles, couscous and similar farinaceous products, food products n.e.c.	Other food products
b_t	Beverages and Tobacco products	Beverages and tobacco
tex	Textiles: textiles and man-made fibres	Textiles, leather, clothing
wap	Wearing Apparel: Clothing, dressing and dyeing of fur	Textiles, leather, clothing
lea	Leather: tanning and dressing of leather; luggage, handbags, saddlery, harness and footwear	Textiles, leather, clothing
lum	Lumber: wood and products of wood and cork, except furniture; articles of straw and plaiting materials	Other manufacturing

GTAP sector	Description	Aggregated mapping for CGE scenarios
ppp	Paper & Paper Products: includes publishing, printing and reproduction of recorded media	Other manufacturing
p_c	Petroleum & Coke: coke oven products, refined petroleum products, processing of nuclear fuel	Other manufacturing
crp	Chemical Rubber Products: basic chemicals, other chemical products, rubber and plastics products	Other manufacturing
nmm	Non-Metallic Minerals: cement, plaster, lime, gravel, concrete	Other manufacturing
i_s	Iron & Steel: basic production and casting	Other manufacturing
nfm	Non-Ferrous Metals: production and casting of copper, aluminium, zinc, lead, gold, and silver	Other manufacturing
fmp	Fabricated Metal Products: Sheet metal products, but not machinery and equipment	Other manufacturing
mvh	Motor vehicles and parts: cars, lorries, trailers and semi-trailers	Other manufacturing
otn	Other Transport Equipment: Manufacture of other transport equipment	Other manufacturing
ele	Electronic Equipment: office, accounting and computing machinery, radio, television and communication equipment and apparatus	Other manufacturing
ome	Other Machinery & Equipment: electrical machinery and apparatus n.e.c., medical, precision and optical instruments, watches and clocks	Other manufacturing
omf	Other Manufacturing: includes recycling	Other manufacturing
ely	Electricity: production, collection and distribution	Utilities, transport, construction
gdt	Gas Distribution: distribution of gaseous fuels through mains; steam and hot water supply	Utilities, transport, construction
wtr	Water: collection, purification and distribution	Utilities, transport, construction
cns	Construction: building houses factories offices and roads	Utilities, transport, construction
trd	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods; retail sale of automotive fuel	Utilities, transport, construction
otp	Other Transport: road, rail ; pipelines, auxiliary transport activities; travel agencies	Utilities, transport, construction
wtp	Water transport	Utilities, transport, construction
atp	Air transport	Utilities, transport, construction
cmn	Communications: post and telecommunications	Utilities, transport, construction

GTAP sector	Description	Aggregated mapping for CGE scenarios
ofi	Other Financial Intermediation: includes auxiliary activities but not insurance and pension funding (see next)	Business, financial services
isr	Insurance: includes pension funding, except compulsory social security	Business, financial services
obs	Other Business Services: real estate, renting and business activities	Business, financial services
ros	Recreation & Other Services: recreational, cultural and sporting activities, other service activities; private households with employed persons (servants)	Government, other services
osg	Other Services (Government): public administration and defense; compulsory social security, education, health and social work, sewage and refuse disposal, sanitation and similar activities, activities of membership organizations n.e.c., extra-territorial organizations and bodies	Government, other services
dwe	Dwellings: ownership of dwellings (imputed rents of houses occupied by owners)	Government, other services

I.2 Scenario A (Domestic producer support - trading partners)

% change in imports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	-2.7	5.1	5.2	2.3	7.2	2.1	-1.7	-1.3
Wheat	-3.2	3.6	11.1	254.1	11.0	2.8	0.3	-0.5
Other agriculture	-1.2	-0.3	0.4	4.8	1.0	4.0	-1.6	-0.9
Sugar cane	-2.2	2.9	-2.8	31.4	2.8	3.3	-4.2	0.2
Plant fibres	-5.8	-3.3	-5.6	26.5	5.2	23.6	-0.4	-2.6
Livestock	-2.6	-2.8	-4.5	-8.0	1.2	-0.6	6.8	0.9
Milk	0.3	4.4	7.7	-18.8	20.9	21.0	109.4	-2.3
Forestry and fishing	0.0	0.4	-0.1	-1.0	0.0	-0.3	-0.4	0.8
Mining	-0.3	-0.3	0.1	0.7	0.0	0.3	0.2	-0.3
Meat products	-2.1	2.4	-3.0	-10.3	1.7	-1.1	8.4	-0.6
Vegetables and oils	-0.3	0.6	5.4	0.4	1.6	0.2	-1.2	-0.5
Da	-2.3	2.1	-1.5	-7.5	0.1	-1.3	11.0	-1.7
Other food products	-0.5	0.5	0.9	10.7	-1.2	-0.7	-1.0	-1.5
Sugar products	-1.8	-5.9	-0.6	9.3	-0.2	-0.5	3.0	-0.9

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Beverages and tobacco	-0.3	0.5	-0.2	0.3	-0.5	-0.4	-0.6	-0.2
Textiles, leather, clothing	-0.2	0.2	0.2	1.9	-0.6	-0.2	0.1	-0.1
Other manufacturing	0.1	0.6	-0.2	-0.7	-0.1	0.0	0.2	0.1
Total	-0.08	0.56	0.05	-0.04	-0.05	0.05	0.15	0.05

% change in Exports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	8.1	4.5	-6.6	1.9	-3.3	-8.2	-15.7	12.6
Wheat	13.1	-8.5	-16.9	-91.2	-10.5	-15.4	-31.9	20.8
Other agriculture	8.2	9.7	3.6	-4.1	3.8	-14.3	-20.7	20.0
Sugar cane	10.9	-1.7	15.0	-38.1	4.0	-0.7	-13.8	21.9
Plant fibres	17.8	5.7	17.5	-33.4	-7.7	-79.4	-16.1	15.5
Livestock	6.3	1.3	10.7	17.5	-0.6	-8.9	-30.4	4.1
Milk	22.4	-0.4	15.7	55.3	-11.0	-33.0	-86.9	28.1
Forestry and fishing	-0.3	-1.0	0.2	2.2	-0.2	-0.1	0.8	-2.0
Mining	0.1	-0.2	-0.2	0.1	-0.1	0.1	0.3	-0.2

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Meat products	7.6	-0.1	5.1	19.2	-2.1	-7.1	-29.2	15.0
Vegetables and oils	2.7	0.1	-10.1	0.3	-5.2	-5.4	-1.5	8.3
Da	4.3	-2.0	4.6	17.8	-5.7	-3.3	-32.8	8.7
Other food products	0.7	-1.1	-1.5	-18.6	1.5	-0.9	-2.1	2.5
Sugar products	3.2	-4.0	0.2	-18.1	3.3	0.5	-18.7	4.0
Beverages and tobacco	0.4	-1.1	-0.1	-1.4	0.8	-0.7	-1.1	0.5
Textiles, leather, clothing	-0.1	-1.0	-0.7	-5.7	1.8	1.1	1.9	0.3
Other manufacturing	-0.6	-1.7	0.2	2.3	-0.1	0.5	0.5	-1.3
Total	-0.06	-0.22	0.05	0.23	-0.24	0.09	0.26	-0.01

% change in Output (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	1.7	1.67	-2.11	-1.27	-2.02	-5.73	-15.16	0.46
Wheat	5.92	-6.94	-0.31	-3.16	-7.78	-7.9	-22.61	11.62
Other agriculture	1.48	2.23	-0.22	-1.21	0.25	-8.37	-4.75	1.94
Sugar cane	0.72	-1.49	-0.15	-2.4	-0.24	-0.31	-7.59	2.75

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Plant fibres	5.53	2.04	2.74	-9.95	-7.16	-60.27	-11.23	5.44
Livestock	0.74	-0.26	0.03	-0.37	-1.23	-4.25	-11.82	1.6
Milk	0.32	-0.56	-0.11	0.63	-1.33	-2.17	-9.89	0.19
Forestry and fishing	-0.09	-0.21	-0.07	0.25	-0.02	0.01	-0.18	0.26
Mining	-0.07	-0.26	0.11	0.56	-0.01	0.13	0.32	-0.23
Meat products	0.81	-0.35	-0.06	8.29	-1.16	-3.78	-8.96	1.68
Vegetables and oils	1.4	-0.26	-1.5	-1	-2.72	-3.56	-1.09	0.73
Da	0.55	-0.4	-0.09	0.32	-1.18	-1.95	-9.36	0.08
Other food products	0.03	-0.23	-0.36	-2.84	-0.1	-0.88	-2	1.22
Sugar products	1.04	-1.98	-0.14	-2.74	-0.23	-0.31	-10.21	3.58
Beverages and tobacco	-0.06	-0.21	-0.07	-0.31	0.04	-0.54	-0.75	-0.02
Textiles, leather, clothing	-0.06	-0.1	-0.42	-2.45	0.61	0.63	1.35	0.23
Other manufacturing	-0.37	-0.4	0.12	0.84	0.01	0.38	0.46	-0.82

I.3 Scenario B (Domestic producer support - SA and trading partners)

% change in imports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	-2.7	5.1	5.2	2.3	7.2	2.1	-1.7	-1.2
Wheat	-3.2	3.6	11.1	254.1	11.0	2.8	0.3	-0.5
Other agriculture	-1.2	-0.3	0.4	4.8	0.9	4.0	-1.6	-0.9
Sugar cane	-2.1	3.0	-2.7	31.5	2.8	3.3	-4.2	0.5
Plant fibres	-5.8	-3.3	-5.6	26.5	5.3	23.6	-0.4	-2.6
Livestock	-2.6	-2.8	-4.5	-8.0	1.2	-0.6	6.8	0.4
Milk	0.3	4.4	7.7	-18.8	20.9	21.0	109.4	-2.2
Forestry and fishing	0.0	0.4	-0.1	-1.0	0.0	-0.3	-0.4	0.8
Mining	-0.3	-0.3	0.1	0.7	0.0	0.3	0.2	-0.3
Meat products	-2.1	2.4	-3.0	-10.3	1.7	-1.1	8.3	-1.3
Vegetables and oils	-0.3	0.6	5.4	0.4	1.6	0.2	-1.2	-0.5
Da	-2.3	2.1	-1.5	-7.5	0.1	-1.3	11.0	-1.8
Other food products	-0.5	0.5	0.9	10.7	-1.2	-0.7	-1.0	-1.5
Sugar products	-1.8	-5.9	-0.6	9.3	-0.2	-0.5	3.0	-0.9

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Beverages and tobacco	-0.3	0.5	-0.2	0.3	-0.5	-0.4	-0.6	-0.2
Textiles, leather, clothing	-0.2	0.2	0.2	1.9	-0.6	-0.2	0.1	-0.1
Other manufacturing	0.1	0.6	-0.2	-0.7	-0.1	0.0	0.2	0.1
Total change in imports	-0.08	0.56	0.05	-0.04	-0.05	0.05	0.15	0.04

% change in exports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	8.1	4.5	-6.6	1.9	-3.3	-8.2	-15.7	12.5
Wheat	13.1	-8.5	-16.9	-91.2	-10.5	-15.4	-31.9	20.7
Other agriculture	8.2	9.7	3.6	-4.1	3.8	-14.3	-20.7	19.9
Sugar cane	10.9	-1.7	15.0	-38.1	4.0	-0.7	-13.9	21.8
Plant fibres	17.8	5.7	17.5	-33.4	-7.7	-79.4	-16.1	15.4
Livestock	6.4	1.3	10.7	17.5	-0.6	-8.9	-30.4	4.5
Milk	22.4	-0.4	15.7	55.4	-11.0	-32.9	-86.9	27.9
Forestry and fishing	-0.3	-1.0	0.2	2.2	-0.2	-0.1	0.8	-2.0
Mining	0.1	-0.2	-0.2	0.1	-0.1	0.1	0.3	-0.2

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Meat products	7.6	0.0	5.1	19.2	-2.1	-7.1	-29.2	14.8
Vegetables and oils	2.7	0.1	-10.1	0.3	-5.2	-5.4	-1.5	8.2
Da	4.3	-2.0	4.6	17.8	-5.7	-3.3	-32.8	8.7
Other food products	0.7	-1.1	-1.5	-18.6	1.5	-0.9	-2.1	2.5
Sugar products	3.2	-4.0	0.2	-18.1	3.3	0.5	-18.7	3.9
Beverages and tobacco	0.4	-1.1	-0.1	-1.4	0.8	-0.7	-1.1	0.5
Textiles, leather, clothing	-0.1	-1.0	-0.7	-5.7	1.8	1.1	1.9	0.3
Other manufacturing	-0.6	-1.7	0.2	2.3	-0.1	0.5	0.5	-1.3
Total change in imports	-0.06	-0.22	0.05	0.23	-0.24	0.09	0.26	-0.02

% change in output (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	1.7	1.67	-2.11	-1.27	-2.02	-5.73	-15.16	0.46
Wheat	5.92	-6.94	-0.31	-3.16	-7.79	-7.9	-22.61	11.55
Other agriculture	1.48	2.23	-0.22	-1.21	0.25	-8.37	-4.75	1.93
Sugar cane	0.72	-1.49	-0.15	-2.4	-0.24	-0.31	-7.6	2.72

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Plant fibres	5.52	2.04	2.74	-9.95	-7.16	-60.27	-11.23	5.39
Livestock	0.74	-0.26	0.03	-0.37	-1.23	-4.25	-11.82	1.71
Milk	0.32	-0.56	-0.11	0.63	-1.33	-2.17	-9.89	0.2
Forestry and fishing	-0.09	-0.21	-0.07	0.25	-0.02	0.01	-0.18	0.26
Mining	-0.07	-0.26	0.11	0.56	-0.01	0.13	0.32	-0.23
Meat products	0.81	-0.34	-0.06	8.29	-1.16	-3.78	-8.96	1.75
Vegetables and oils	1.4	-0.26	-1.5	-1	-2.72	-3.56	-1.09	0.73
Da	0.55	-0.4	-0.09	0.32	-1.18	-1.95	-9.36	0.08
Other food products	0.03	-0.23	-0.36	-2.84	-0.1	-0.88	-2	1.21
Sugar products	1.04	-1.98	-0.14	-2.74	-0.23	-0.31	-10.21	3.54
Beverages and tobacco	-0.06	-0.21	-0.07	-0.31	0.04	-0.54	-0.75	-0.02
Textiles, leather, clothing	-0.06	-0.1	-0.42	-2.45	0.61	0.63	1.35	0.21
Other manufacturing	-0.37	-0.4	0.12	0.84	0.01	0.38	0.46	-0.83

I.4 Scenario C (Trade policy - trading partners)

% change in imports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	0.1	0.7	4.2	62.8	0.8	0.4	8.6	-0.6
Wheat	0.4	0.0	1.9	8.5	0.8	8.9	24.9	-0.3
Other agriculture	0.3	5.0	22.0	42.3	1.0	0.9	4.6	-0.6
Sugar cane	0.2	-0.2	0.1	-2.6	0.3	0.5	4.6	-0.7
Plant fibres	-0.3	12.5	5.8	-0.4	0.9	-0.3	0.7	-0.6
Livestock	-0.2	6.4	12.0	11.7	0.5	0.8	55.0	-0.3
Milk	3.8	2.3	4.1	-3.3	5.7	0.7	0.8	1.6
Forestry and fishing	0.0	0.1	0.1	0.0	0.0	0.0	0.2	-0.1
Mining	0.0	0.0	0.1	0.2	0.0	0.0	-0.1	0.0
Meat products	0.2	0.1	-1.3	-1.9	0.0	0.0	-5.9	-0.5
Vegetables and oils	0.1	-0.1	-2.3	-0.9	0.1	-0.1	-0.9	-0.1
Da	0.1	0.2	-0.9	-1.8	0.4	0.1	-1.3	-0.1
Other food products	0.2	0.2	-0.6	-0.9	0.1	0.1	-1.3	0.1
Sugar products	0.1	0.8	-0.7	-1.2	0.0	0.0	-3.4	-0.2

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Beverages and tobacco	0.1	0.1	-0.1	-0.3	0.1	0.1	-0.2	0.0
Textiles, leather, clothing	0.2	0.4	-0.4	0.0	0.2	0.0	0.0	0.1
Other manufacturing	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0
Total change in imports	0.02	0.15	0.28	0.44	0.04	0.03	0.07	-0.02

% change in exports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	1.6	2.0	2.9	5.1	1.0	0.4	2.2	-0.3
Wheat	6.2	1.6	5.6	6.9	2.2	-5.3	18.8	1.7
Other agriculture	3.2	2.9	7.4	6.1	4.0	-0.7	5.2	-0.9
Sugar cane	-0.3	-0.8	85.1	10.2	17.3	-0.5	-4.3	-0.5
Plant fibres	1.9	2.3	3.7	6.4	1.4	2.3	3.6	0.6
Livestock	1.4	1.3	4.2	4.9	2.9	1.7	-0.6	0.1
Milk	-4.3	-4.4	0.1	15.9	-4.1	-0.6	4.3	-2.9
Forestry and fishing	0.0	-0.1	-0.2	0.1	0.0	0.0	-0.1	0.1
Mining	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Meat products	-0.7	-0.7	3.2	4.5	-0.5	0.4	23.1	-0.3
Vegetables and oils	-0.8	-0.3	5.2	2.7	-0.6	0.7	15.4	0.1
Da	-0.4	-0.5	1.9	3.9	-0.5	0.2	4.4	0.0
Other food products	-0.4	-0.4	1.1	1.9	-0.2	0.1	6.3	-0.2
Sugar products	-0.2	-0.4	1.7	2.1	-0.3	0.2	26.5	0.0
Beverages and tobacco	-0.2	-0.3	0.3	0.5	-0.2	0.1	4.0	-0.1
Textiles, leather, clothing	-0.6	-0.8	1.0	0.5	-0.7	-0.3	-0.6	-0.5
Other manufacturing	-0.1	-0.3	0.0	0.4	-0.1	0.1	-0.2	0.0
Total change in imports	0.01	0.09	0.27	0.68	0.03	0.04	0.07	-0.01

% change in output (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	-0.01	0.79	-0.79	0.44	0.3	0.14	1.53	0.04
Wheat	1.58	0.59	0.02	0.06	1.47	-4.72	-5.61	1.1
Other agriculture	0.46	0.49	-0.39	-1.23	0.31	-0.79	-3.68	-0.06
Sugar cane	-0.09	-0.15	0.29	0.23	-0.05	0.06	10.17	-0.02

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Plant fibres	0.26	-0.34	-2.51	1.62	1.19	1.25	1.85	0.06
Livestock	-0.03	-0.12	0.02	0.15	0.04	0.29	-2.24	0.04
Milk	-0.08	-0.02	0.16	0.19	-0.08	0.08	1.44	0
Forestry and fishing	-0.02	-0.03	0.05	0.06	-0.01	0.02	0.04	-0.02
Mining	0	-0.04	0	0.07	0	0.02	-0.07	0.03
Meat products	-0.15	-0.18	0.31	2.01	-0.09	0.18	4.68	0.02
Vegetables and oils	-0.49	-0.08	0.61	1.15	-0.27	0.41	11.79	0.09
Da	-0.09	-0.02	0.19	0.16	-0.07	0.08	1.48	0.01
Other food products	-0.11	-0.03	0.15	0.24	-0.03	0.06	3.6	-0.09
Sugar products	-0.11	-0.19	0.29	0.27	-0.06	0.1	13.84	-0.03
Beverages and tobacco	-0.04	-0.03	0.05	0.07	-0.02	0.05	2.41	0
Textiles, leather, clothing	-0.37	-0.11	0.57	0.21	-0.21	-0.16	-0.42	-0.38
Other manufacturing	-0.03	-0.05	0.03	0.18	-0.02	0.04	-0.13	0.02

I.5 Scenario D (Trade policy - SA and trading partners)

% change in imports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	0.1	0.8	4.2	62.9	0.8	0.4	8.6	0.6
Wheat	0.4	0.0	1.9	8.7	0.8	8.9	24.9	-0.3
Other agriculture	0.3	5.1	22.1	42.4	1.0	0.9	4.6	1.9
Sugar cane	0.3	0.0	0.2	-2.5	0.3	0.5	4.6	-0.2
Plant fibres	-0.3	12.6	5.8	-0.3	0.9	-0.3	0.7	5.8
Livestock	-0.2	6.4	12.0	11.8	0.5	0.8	55.0	-0.1
Milk	3.8	2.5	4.2	-3.2	5.7	0.7	0.8	1.5
Forestry and fishing	0.0	0.1	0.1	0.0	0.0	0.0	0.2	-0.1
Mining	0.0	0.0	0.1	0.2	0.0	0.0	-0.1	0.0
Meat products	0.2	0.2	-1.3	-1.8	0.0	0.0	-5.8	0.6
Vegetables and oils	0.1	0.0	-2.3	-0.9	0.1	-0.1	-0.9	0.1
Da	0.1	0.3	-0.9	-1.7	0.4	0.1	-1.3	0.4
Other food products	0.2	0.3	-0.6	-0.8	0.1	0.1	-1.3	0.1
Sugar products	0.0	0.8	-0.7	-1.2	0.0	0.0	-3.4	-0.2

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Beverages and tobacco	0.2	0.1	-0.1	-0.3	0.1	0.1	-0.2	0.3
Textiles, leather, clothing	0.2	0.5	-0.4	0.0	0.2	0.0	0.0	0.0
Other manufacturing	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0
Total change in imports	0.02	0.18	0.28	0.44	0.04	0.03	0.07	0.04

% change in exports (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	1.6	1.9	2.9	5.1	1.0	0.4	2.2	-0.3
Wheat	6.2	1.3	5.6	6.8	2.2	-5.3	18.8	1.9
Other agriculture	3.2	4.9	7.3	7.3	3.9	-0.8	5.1	-0.9
Sugar cane	-0.4	-1.1	85.0	9.9	17.2	-0.5	-4.3	-0.3
Plant fibres	1.8	2.3	3.7	6.3	1.4	2.3	3.6	2.7
Livestock	1.4	1.2	4.3	4.8	2.9	1.7	-0.6	-0.4
Milk	-4.3	-4.8	0.0	15.6	-4.2	-0.6	4.3	-2.6
Forestry and fishing	0.0	-0.2	-0.2	0.1	0.0	0.0	-0.1	0.1
Mining	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Meat products	-0.7	-1.0	3.2	4.4	-0.5	0.4	23.1	0.0
Vegetables and oils	-0.8	-0.5	5.2	2.6	-0.6	0.7	15.4	0.4
Da	-0.4	-0.7	1.9	3.8	-0.5	0.2	4.4	0.1
Other food products	-0.4	-0.6	1.1	1.8	-0.2	0.1	6.3	-0.2
Sugar products	-0.2	-0.5	1.7	2.0	-0.3	0.2	26.5	0.3
Beverages and tobacco	-0.2	-0.4	0.3	0.5	-0.2	0.1	4.0	-0.1
Textiles, leather, clothing	-0.6	-0.9	1.0	0.5	-0.7	-0.3	-0.6	0.1
Other manufacturing	-0.1	-0.4	0.0	0.4	0.0	0.1	-0.2	0.1
Total change in imports	0.01	0.10	0.27	0.68	0.03	0.04	0.07	0.03

% change in output (volume)

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Other grains	0	0.72	-0.78	0.43	0.3	0.15	1.52	-0.07
Wheat	1.59	0.4	0.02	0.06	1.47	-4.72	-5.61	1.17
Other agriculture	0.45	0.97	-0.39	-1.19	0.3	-0.82	-3.69	-0.16
Sugar cane	-0.07	-0.2	0.3	0.22	-0.05	0.06	10.2	0.19

	Rest of World	Brazil	China	India	USA	EU	Switzerland	Rest of SACU
Plant fibres	0.26	-0.35	-2.5	1.59	1.23	1.26	1.85	-2.77
Livestock	-0.03	-0.16	0.02	0.14	0.04	0.29	-2.23	-0.09
Milk	-0.08	-0.03	0.16	0.19	-0.08	0.08	1.44	0
Forestry and fishing	-0.02	-0.04	0.05	0.06	-0.01	0.02	0.04	-0.02
Mining	0	-0.05	0	0.07	0	0.02	-0.07	0.02
Meat products	-0.14	-0.25	0.31	1.98	-0.09	0.18	4.68	-0.06
Vegetables and oils	-0.48	-0.13	0.61	1.11	-0.27	0.42	11.8	-0.03
Da	-0.09	-0.03	0.19	0.16	-0.07	0.08	1.48	0.01
Other food products	-0.11	-0.04	0.15	0.23	-0.03	0.06	3.6	-0.08
Sugar products	-0.1	-0.25	0.3	0.27	-0.05	0.12	13.88	0.23
Beverages and tobacco	-0.04	-0.03	0.05	0.07	-0.02	0.05	2.41	-0.02
Textiles, leather, clothing	-0.37	-0.13	0.57	0.19	-0.21	-0.16	-0.42	0.01
Other manufacturing	-0.03	-0.07	0.03	0.17	-0.02	0.04	-0.13	0.05

I.6 Price changes

Percentage change in aggregate export price index, South Africa (%)

Sector	Removing domestic support		Removing trade policy	
	A. Partner countries	B. SA and partner countries	A. Partner countries	B. SA and partner countries
Other grains	0.013	0.013	0.003	0
Wheat	0.011	0.008	0.002	0
Other agriculture	0.016	0.017	0.006	0
Sugar cane	0.01	0.008	0.003	0
Plant fibres	0.01	0.005	0.002	0
Livestock	0.011	0.017	0.003	-0.001
Milk	0.011	0.017	0.003	-0.027
Forestry and fishing	0.002	0.002	0	0
Mining	0.001	0.001	0	0
Meat products	0.008	0.011	0.002	-0.003
Vegetables and oils	0.006	0.007	0.001	-0.001
Da	0.004	0.005	0.001	-0.002
Other food products	0.006	0.006	0.001	-0.001
Sugar products	0.005	0.005	0.001	-0.002
Beverages and tobacco	0.004	0.004	0.001	-0.005
Textiles, leather, clothing	0.003	0.003	0	0
Other manufacturing	0.003	0.003	0	0

Percentage change in ratio of domestic price to import price, South Africa (%)

Sector	Removing domestic support		Removing trade policy	
	A. Partner countries	B. SA and partner countries	A. Partner countries	B. SA and partner countries
Other grains	-0.018	-0.018	0.002	0.007
Wheat	-0.021	-0.023	0	-0.002
Other agriculture	-0.018	-0.017	0.006	0.335
Sugar cane	-0.017	-0.018	0.002	-0.001
Plant fibres	-0.01	-0.015	0	0.013
Livestock	-0.009	-0.003	0.004	0.003
Milk	-0.004	0.002	0.01	0.006
Forestry and fishing	0.001	0.001	0	0
Mining	0	0	0	0
Meat products	-0.013	-0.01	0.001	-0.003
Vegetables and oils	-0.01	-0.01	0	-0.002
Da	-0.015	-0.015	0.001	-0.002
Other food products	-0.008	-0.008	0.002	0
Sugar products	-0.016	-0.017	0	-0.003
Beverages and tobacco	-0.005	-0.005	0.002	-0.004
Textiles, leather, clothing	-0.002	-0.002	0.002	0.001
Other manufacturing	0.002	0.002	0	0

Appendix J   Key reference documents

J.1   WTO notifications

Country	Document	Document Date	Document number
Brazil	G/AG/N/BRA/48	14/3/2018	18-1542
Brazil	G/AG/N/BRA/47	13/3/2018	18-1534
Brazil	G/AG/N/BRA/46	14/3/2018	18-1546
Brazil	G/AG/N/BRA/45	14/3/2018	18-1547
Brazil	G/AG/N/BRA/42	28/10/2016	16-5924
Brazil	G/AG/N/BRA/41	27/10/2016	16-5902
Brazil	G/AG/N/BRA/40	12/1/2016	16-0219
Brazil	G/AG/N/BRA/39	12/1/2016	16-0218
Brazil	G/AG/N/BRA/37/Corr.1	8/1/2016	16-0187
Brazil	G/AG/N/BRA/37	29/1/2015	15-0653
Brazil	G/AG/N/BRA/36	27/1/2015	15-0585
Brazil	G/AG/N/BRA/34	26/1/2015	15-0531
Brazil	G/AG/N/BRA/33	3/2/2014	14-0601
Brazil	G/AG/N/BRA/32/Corr.1	22/5/2014	14-3067
Brazil	G/AG/N/BRA/32	3/2/2014	14-0581
Brazil	G/AG/N/BRA/31	18/11/2013	13-6351
Brazil	G/AG/N/BRA/30	23/4/2013	13-2145
Brazil	G/AG/N/BRA/28	2/10/2012	12-5337
China	G/AG/N/CHN/29	2/2/2016	16-0703
China	G/AG/N/CHN/28	6/5/2015	15-2422
China	G/AG/N/CHN/27	7/3/2014	14-1389
China	G/AG/N/CHN/24	17/12/2012	12-6907
China	G/AG/N/CHN/23	14/12/2012	12-6822

Country	Document	Document Date	Document number
EU	G/AG/N/EU/6	15/3/2012	12-1453
EU	G/AG/N/EU/45	30/4/2018	18-2679
EU	G/AG/N/EU/44	30/4/2018	18-2678
EU	G/AG/N/EU/43	5/3/2018	18-1369
EU	G/AG/N/EU/38	25/4/2017	17-2241
EU	G/AG/N/EU/35	8/2/2017	17-0765
EU	G/AG/N/EU/34/Corr.1	5/3/2018	18-1371
EU	G/AG/N/EU/34	8/2/2017	17-0754
EU	G/AG/N/EU/29	20/5/2016	16-2762
EU	G/AG/N/EU/26/Corr.1	18/1/2016	16-0335
EU	G/AG/N/EU/26	2/11/2015	15-5790
EU	G/AG/N/EU/25	17/6/2015	15-3134
EU	G/AG/N/EU/22	17/12/2014	14-7308
EU	G/AG/N/EU/20	22/10/2014	14-6069
EU	G/AG/N/EU/18	17/2/2014	14-0942
EU	G/AG/N/EU/17	13/2/2014	14-0877
EU	G/AG/N/EU/14	13/6/2013	13-3066
EU	G/AG/N/EU/11	20/11/2012	12-6338
EU	G/AG/N/EU/10/Rev.1	13/2/2014	14-0874
EU	G/AG/N/EU/10/Corr.1	18/12/2012	12-6916
EU	G/AG/N/EU/10	19/11/2012	12-6332
India	G/AG/N/IND/9	30/7/2012	12-4174
India	G/AG/N/IND/12	1/5/2018	18-2705
India	G/AG/N/IND/11	13/7/2017	17-3794
India	G/AG/N/IND/10/Corr.1	1/10/2014	14-5509
India	G/AG/N/IND/10	10/9/2014	14-5115

Country	Document	Document Date	Document number
Switzerland	G/AG/N/CHE/84	7/2/2018	18-0853
Switzerland	G/AG/N/CHE/82	11/10/2017	17-5465
Switzerland	G/AG/N/CHE/79	18/1/2017	17-0347
Switzerland	G/AG/N/CHE/75	21/6/2016	16-3363
Switzerland	G/AG/N/CHE/72	10/8/2015	15-4114
Switzerland	G/AG/N/CHE/71	21/1/2015	15-0403
Switzerland	G/AG/N/CHE/68	26/9/2014	14-5428
Switzerland	G/AG/N/CHE/67	4/4/2014	14-2093
Switzerland	G/AG/N/CHE/63	13/9/2013	13-4850
Switzerland	G/AG/N/CHE/62/Corr.2	16/1/2015	15-0308
Switzerland	G/AG/N/CHE/62/Corr.1	2/5/2013	13-2330
Switzerland	G/AG/N/CHE/62	28/2/2013	13-1058
Switzerland	G/AG/N/CHE/59/Corr.1	16/1/2015	15-0303
Switzerland	G/AG/N/CHE/59	20/11/2012	12-6372
USA	G/AG/N/USA/99/Corr.1	20/11/2014	14-6786
USA	G/AG/N/USA/99	5/11/2014	14-6457
USA	G/AG/N/USA/93/Rev.1	31/1/2017	17-0618
USA	G/AG/N/USA/93/Corr.1	11/2/2014	14-0813
USA	G/AG/N/USA/93	9/1/2014	14-0064
USA	G/AG/N/USA/91	24/10/2012	12-5796
USA	G/AG/N/USA/89/Rev.2	31/1/2017	17-0598
USA	G/AG/N/USA/89/Rev.1	9/1/2014	14-0065
USA	G/AG/N/USA/89	1/10/2012	12-5305
USA	G/AG/N/USA/88	27/9/2012	12-5211
USA	G/AG/N/USA/121	1/5/2018	18-2716
USA	G/AG/N/USA/118	29/11/2017	17-6543

Country	Document	Document Date	Document number
USA	G/AG/N/USA/112	30/3/2017	17-1735
USA	G/AG/N/USA/110	19/1/2017	17-0360
USA	G/AG/N/USA/109	19/1/2017	17-0359
USA	G/AG/N/USA/108/Rev.1	3/2/2017	17-0673
USA	G/AG/N/USA/108	25/5/2016	16-2846
USA	G/AG/N/USA/107	23/5/2016	16-2776
USA	G/AG/N/USA/100/Rev.1	3/2/2017	17-0672
USA	G/AG/N/USA/100	8/12/2014	14-7139

J.2 WTO TPRs

Country	Reporter	Date	Document
Brazil	Report by the Secretariat	18/10/2017	WT/TPR/S/358/Rev.1
Brazil	Report by Brazil	12/6/2017	WT/TPR/G/358
China	Report by the Secretariat	12/10/2016	WT/TPR/S/342/Rev.1
China	Report by China	15/6/2016	WT/TPR/G/342
EU	Report by the Secretariat	13/10/2017	WT/TPR/S/357/Rev.1
EU	Report by EU	17/5/2017	WT/TPR/G/357
India	Report by India	28/4/2015	WT/TPR/G/313
India	Report by the Secretariat	14/9/2015	WT/TPR/S/313/Rev.1
Switzerland and Lichtenstein	Reports by Switzerland and Lichtenstein	11/4/2017	WT/TPR/G/355
Switzerland and Lichtenstein	Report by the Secretariat	22/9/2017	WT/TPR/S/355/Rev.1
USA	Report by the United States	14/11/2016	WT/TPR/G/350
USA	Report by the United States, Revision	28/3/2017	WT/TPR/G/350/Rev.1
USA	Report by the Secretariat, Revision	28/3/2017	WT/TPR/S/350/Rev.1

J.3   Key OECD reference documents

OECD. 2016. *OECD's Producer Support Estimate and Related Indicators of Agricultural Support, 'The PSE Manual'*. March 2016. Available online: https://www.oecd.org/tad/agricultural-policies/psemanual.htm. Referenced as "The PSE Manual".

OECD. *Producer and Consumer Estimates database.* Available online: https://www.oecd.org/tad/agricultural-policies/producerandconsumersupportestimatesdatabase.htm. Referenced as "The PSE database".

OECD. *Producer and Consumer Estimates database, Country Files: Definitions and Sources.* Available online: https://www.oecd.org/tad/agricultural-policies/producerandconsumersupportestimatesdatabase.htm. Referenced as "Country cookbooks".

OECD. nd. *Introduction to the OECD Producer Support Estimate and Related Indicators of Agricultural Support*. Available online: http://www.oecd.org/tad/agricultural-policies/pse-introduction-august-final.pdf. Referenced as "Introduction to PSE indicators".

OECD. 2018. Agricultural Policies in India. Available online: https://doi.org/10.1787/9789264302334-en. Referenced as "OECD India 2018 report".

OECD. 2018. Agricultural Policy Monitoring and Evaluation 2018. Available online: https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2018_agr_pol-2018-en.