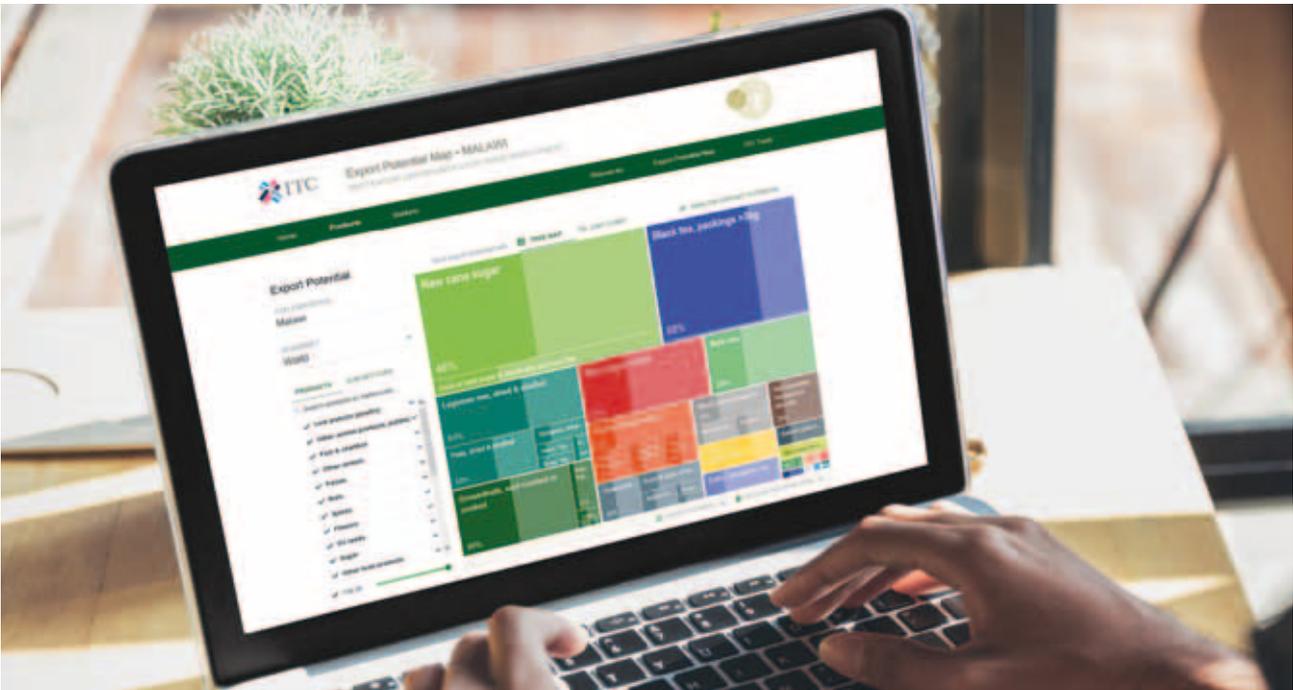


# EXPLORING MALAWI'S EXPORT POTENTIAL



International  
Trade  
Centre

Funded by the European Union





# Exploring Malawi's export potential

## About the paper

Regional integration is the key to Malawi's trade success, according to a new ITC report that uncovers the country's greatest untapped export potential in agro-processing.

This report is a roadmap for Malawian exporters and policymakers to identify higher value-added products and markets with growth potential, as well as giving guidance to realize these opportunities and overcoming production challenges.

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For more information on Export Potential Map projects, see: <http://exportpotential.intracen.org>.

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## Foreword

As a least developed country (LDC), Malawi recognizes the importance of investing in policies and processes to use trade as a tool of inclusive growth. Underlying this approach is a strategy to strengthen its export sectors and broaden the scope of the goods and services produced given the country's traditionally strong dependence on a narrow set of revenue-generating exports.

Developing a competitiveness strategy that focuses on diversifying its export markets and shifting to greater value addition in its products and services could place the country onto a more stable and sustainable development path with widespread benefits for the population.

In this context, trade and market access data are key in guiding and re-orienting national policies towards the opportunities that promise the greatest benefits. This paper provides an example of how relevant data – complemented by information from local stakeholders – can inform the trade-related decision-making of policymakers and the private sector. By transforming raw data to trade and market intelligence, Malawi is in a better position to design and implement an informed trade and development strategy.

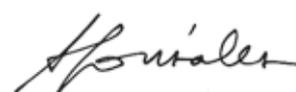
Enhancing trade competitiveness is not always straightforward. It requires a balance between policies that promote the current basket of export goods and an innovative approach that invests in new tradable products with higher value added and impact. Accordingly, this paper provides a customized analysis for product upgrading focused on export diversification.

In line with ITC's export potential and diversification methodology, including its new value chain indicator, this analysis identifies opportunities for Malawi to achieve export success through greater diversification and value addition. These opportunities include the identification of local value chains through which the country could further develop a higher value-added offering.

The findings show that the country has a wealth of untapped export potential, particularly within the Southern African Development Community (SADC) region, and that realizing this potential can build competitiveness for future growth.

ITC is committed to providing customized, cutting-edge analysis to help micro, small and medium-sized enterprises (MSMEs) and policymakers realize their potential for inclusive, trade-led growth. One of the key contributions is to empower businesses and policymakers around the world through access to trade and market intelligence.

This paper is a result of ITC's collaboration with the National Statistical Office and the Ministry of Industry and Trade of Malawi on strengthening national capacities in trade information and statistics services and aligned to Malawi's national objectives. ITC is pleased to be on this journey with Malawi and will be pleased to continue offering support and assistance to help the country realize its development potential.



Arancha González  
Executive Director  
International Trade Centre

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## Contents

Foreword	iii
Acknowledgements	iv
Acronyms	vii
Executive summary	viii
<b>CHAPTER 1 MALAWI'S TRADE LANDSCAPE</b>	<b>1</b>
Malawi's regional trade deals	1
A growing trade deficit in recent years	2
Dual challenge: Export slowdown, limited diversification	3
Bridging the gap with export potential analysis	5
<b>CHAPTER 2 NEW OPPORTUNITIES</b>	<b>7</b>
Tea: Limited possibilities for value addition	12
Nuts: Market hand-picked macademia nuts	14
Chicken eggs, poultry: Exploit regional opportunities	17
Wood products: Investments are key	19
Pulses, other cereals: Diversify for new opportunities	22
Plastics: Specialize for economies of scale	24
Groundnuts, soybeans, oilseeds: Move towards oil processing	26
Sugar: Expand production capacity	29
Other fruits, vegetables and spices	31
<b>CHAPTER 3 RECOMMENDATIONS</b>	<b>32</b>
<b>APPENDICES</b>	<b>36</b>
Appendix I List of countries granting unilateral tariff preferences to Malawi	36
Appendix II Herfindahl-Hirschman index of export concentration	37
Appendix III Export potential and diversification assessment methodology	38
Appendix IV List of interviewed agencies or institutions	45
<b>REFERENCES</b>	<b>46</b>

**Figures, Tables**

Figure 1	Malawi's regional trade agreements and unilateral preferences granted by developed countries	2
Figure 2	Evolution of Malawi's trade balance (goods only)	3
Figure 3	Malawi's key export sectors (\$ million and growth rate 2011-2015)	4
Figure 4	Malawi's key export partners (\$ million and growth rate 2011-2015)	4
Figure 5	Products with potential for growth in bilateral exports and opportunities for diversification in the most promising sectors	8
Figure 6	Performance of products with export potential	9
Figure 7	Malawi's opportunities for diversification into new products	10
Figure 8	Malawi's opportunities to upgrade its current exports	10
Figure 9	Export potential for black tea, by product and market	13
Figure 10	Export potential: markets for fresh or dried nuts	15
Figure 11	Export potential: markets for birds' eggs	17
Figure 12	Malawi's opportunities for diversification into new animal products	18
Figure 13	Export potential for wood-related exports, by product and market	19
Figure 14	Opportunities for upgrading in wood-related products	20
Figure 15	Export potential for pulses' exports, by product and market	23
Figure 16	Export potential for plastic products, by product and market	25
Figure 17	Export potential for oilseeds' exports, by product and market	26
Figure 18	Opportunities for upgrading in oilseeds and vegetable oils	27
Figure 19	Export potential: markets for raw cane sugar	30
Table 1	Malawi's product and market diversification	5
Table 2	Summary of opportunities for export growth (EP) and diversification (DV)	34
Table 3	Expansion of IO table from NAICS goods sectors to HS-based product groups	41
Table 4	Equal split of technical coefficient among corresponding subsectors	42
Table 5	Modification of the technical coefficient following the implementation of word-matching techniques: Step 1	43
Table 6	Modification of the technical coefficient following the implementation of word-matching techniques: Step 2	44

## Acronyms

Unless otherwise specified, all references to dollars (\$) are to United States dollars, and all references to tons are to metric tons.

AGOA	African Growth and Opportunity Act
COMESA	Common Market of Eastern and Southern Africa
DTIS	Diagnostic Trade Integration Study
EBA	Everything But Arms
EPI	Export potential indicator
EU	European Union
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
HS	Harmonized System
ITC	International Trade Centre
LDC	Least developed country
MFN	Most-favoured-nation
NAICS	North American Industry Classification System
NES	National export strategy
PDI	Product diversification indicator
SADC	Southern African Development Community
UNCTAD	United Nations Conference on Trade and Development
VCI	Value chain indicator
WTO	World Trade Organization

## Executive summary

Over the course of the past 15 years, there has been a marked slowdown in the growth of Malawi's major traditional exports, such as sugar, tea and groundnuts. This has been accompanied by strong growth in imports, creating an overall trade imbalance.

The country's trade also tends to be concentrated in a few markets and products. The 2014 update of the Diagnostic Trade Integration Study concluded that a lack of product diversification resulted in Malawi's inability to plug into regional or global value chains. In response to these challenges, the country's Second Growth and Development Strategy aims at expanding and diversifying exports.

This paper draws ITC data, customized methodologies for product and market prioritization, desk research, and consultations with local stakeholders to identify products that could help Malawi achieve the following three objectives:

- Expansion of existing exports;
- Diversification of the export bundle;
- Identification of possibilities for adding value to existing export products.

The paper's findings highlight the importance of regional integration for Malawi's trade development and export growth. Its analysis demonstrates that most of the potential for the country's export growth and diversification lies in the Southern African Development Community (SADC) region.

The paper also presents a new analysis on opportunities for upgrading to transformed products, taking into account the existing export structure and available inputs. It reviews the current trade challenges that Malawi faces and provides guidance on targeted avenues for enhancing export growth, diversification and product upgrading by moving towards higher value added products within a value chain.

Finally, it identifies a number of promising export products for the country, including raw cane sugar, macadamia nuts, black tea, eggs, oil products, groundnuts and various legumes.

These are the key findings:

*The future of Malawi's trade performance hinges on its effective integration within the region.*

SADC is the natural market for Malawian exporters where 39% of the country's untapped export potential (\$154.4 million) lies. Realizing these opportunities should help create a solid export basis for the country while also enabling to acquire the experience needed to reach more distant markets.

*Untapped export opportunities in the SADC region comprise a mix of Malawi's traditional and novel export sectors.*

Among traditional exports, raw cane sugar, black fermented tea, groundnuts, maize seeds for sowing, dried peas, and wood-related products offer room for export growth, ranging from \$30.6 million to \$3.7 million. Among non-traditional exports, Malawi recently increased its exports of chicken eggs to Mozambique dramatically (353% annual growth between 2011 and 2015), a performance that opens the door to further regional opportunities valued at \$29.7 million for chicken eggs. Plastic products also have an unrealized potential for intraregional trade, amounting to \$8.9 million.

*Regional markets will be at the heart of future competitiveness.*

Malawian exporters remain generally competitive vis-à-vis other suppliers in the regional market. Other SADC countries offer a natural testing ground for diversification opportunities, in particular for processed products based on raw materials currently exported. The development of an oil processing industry seems to be the most natural path for the country's industrial development.

Exports of wooden furniture constitute yet another opportunity for building on the export performance of key inputs, such as fibreboards. Other diversification opportunities in the sugar and poultry sectors could lead to exports of cane molasses, refined sugar, and fresh and frozen poultry products. In addition, the country's climate conditions appear suitable for diversification of production into palm oil tree and sunflower seed.

*Export competitiveness in international markets needs to be sustained.*

Some Malawian agricultural products, such as macadamia nuts (shelled and in shells), dried shelled common peas, chickpeas, and raw cane sugar, are already reaching overseas markets. This presence allows exporters to acquire specific market knowledge that could be useful also for the exporters of other products wishing to expand their sales internationally. Cashew nuts and frozen common peas seem to be promising options for market diversification.

*A coherent framework of domestic and sectoral policies is needed for realizing opportunities and overcoming production challenges.*

Ensuring widespread access to finance for national producers, reducing transport costs through improved connectivity to regional markets, and implementing an attractive and effective taxation system are overarching policies that will have a positive impact on the general business environment.

A business-friendly environment is also important for attracting investment and increasing competition in the Malawian economy. However, more coordination between public and private stakeholders would help increase the impact of sectoral policies along the production chain (farmers, processors, exporters).



## CHAPTER 1 MALAWI'S TRADE LANDSCAPE

Malawi belongs to the group of least developed countries (LDCs) established by the United Nations.<sup>1</sup> Unlike many other developing countries in the region, it is one of the most densely populated nations on the continent and has no access to the sea. It has borders with Mozambique to the south and west, Zambia to the east, and the United Republic of Tanzania to the north. Despite having had a democratic government for more than two decades and sustained gross domestic product (GDP) growth since 2002, the country is still subject to endemic poverty, particularly in the rural areas. Extreme droughts and floods recently devastated the large agricultural sector and led to a slowdown in growth in 2015 and 2016.

### Malawi's regional trade deals

Malawi has been a member of the World Trade Organization (WTO) since its establishment in 1995, and joined its predecessor, the General Agreement on Tariffs and Trade (GATT), in 1964. As a WTO Member, the country benefits from most-favoured-nation (MFN) tariffs applied by other Members. As an LDC, it also benefits from reduced-duty or duty-free access to various developing and developed-country markets through differentiated treatment schemes.<sup>2</sup> Countries unilaterally granting preferential market access to Malawi for many of its export products include China,<sup>3</sup> the members of the European Union (EU), India, the Russian Federation and the United States of America (full list of countries in Appendix I).

The EU grants Malawi unilateral preferential market access under the Everything But Arms (EBA) initiative initialized in 2001 to give 49 LDCs full duty- and quota-free access for all their exports, with the exception of arms and armaments. Unlike other unilateral preferential schemes, the EBA has no expiry date. Malawi is also a beneficiary of the United States African Growth and Opportunity Act (AGOA), which was originally promulgated in 2000 and recently extended up to 2025. This non-reciprocal trade act provides African products meeting certain eligibility requirements with duty- and quota-free market access. A distinctive feature is the rule-of-origin provision allowing less developed countries to use fabrics and yarn made in a third country.

WTO rules call for non-discriminating treatment among its Members, although they do recognize the efforts of some countries to go beyond the trade liberalization negotiated at the multilateral level through regional or bilateral trade agreements. In that regard, Malawi is part of two regional groupings whose objectives include reducing trade barriers among member countries: the Common Market of Eastern and Southern Africa (COMESA), and the Southern African Development Community (SADC).

Malawi is a founding member of COMESA, whose free trade area came into force in 2000. COMESA is not exclusively focused on trade, and several other areas of regional integration are covered by the COMESA agreement, e.g. infrastructure, finance and agriculture. The COMESA programme on intraregional trade foresees a customs union and eventually an economic community, but progress in this area has been slow. SADC, which also covers areas other than trade, established a free trade area in 2008, but not all SADC countries have fully adhered to the Trade Protocol.<sup>4</sup> Figure 1 below illustrates all these regional initiatives (and possible overlaps) as well as the non-reciprocal preferences described in the next paragraph.

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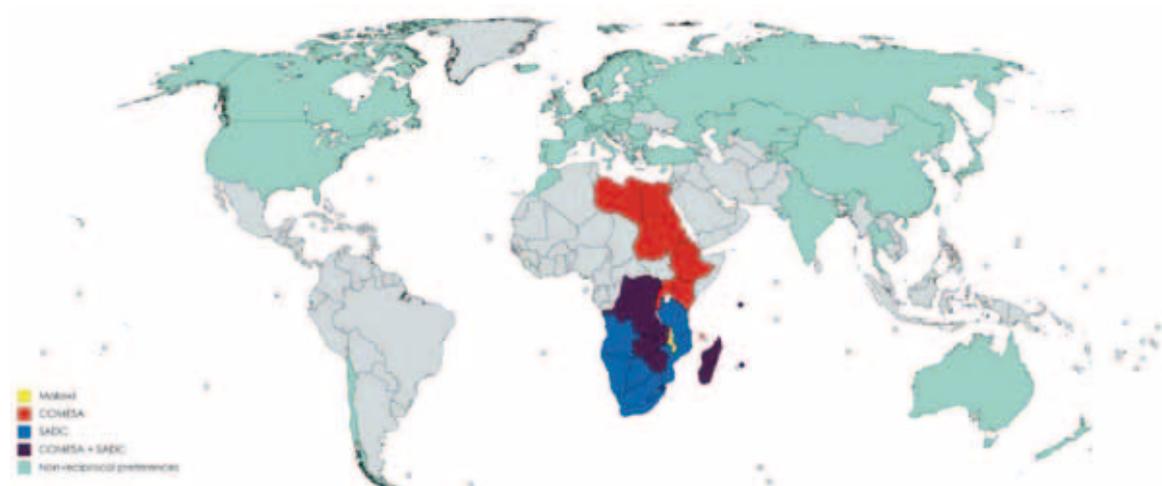
<sup>1</sup> LDCs rank lowest in terms of socioeconomic development (poverty, human resources weakness, and economic vulnerability); see <http://unctad.org/en/pages/aldc/Least%20Developed%20Countries/UN-list-of-Least-Developed-Countries.aspx>.

<sup>2</sup> Special provisions in WTO Agreements give developed countries the possibility of treating developing countries more favourably than other WTO Members, i.e. through tariff rates below MFN rates. These measures aim at increasing market opportunities for developing countries.

<sup>3</sup> China and Malawi signed an agreement enabling this preferential access in 2008.

<sup>4</sup> The Democratic Republic of the Congo is not a party to the Trade Protocol, and Angola has not yet submitted its tariff offers to other SADC members.

Figure 1 Malawi's regional trade agreements and unilateral preferences granted by developed countries



Source: Data from the ITC Market Access Map (2017).

In addition to these regional initiatives, Malawi has bilateral trade agreements, which vary from one to another.<sup>5</sup> The agreements with Botswana, Zimbabwe and Mozambique are reciprocal in nature. The customs agreement with the British protectorate of Bechuanaland (which became Botswana upon its independence in 1966) dates back to 1956 and provides almost full coverage.

The 1995 agreement with Zimbabwe applies duty-free access to all goods but requires 25% of local content for manufactured goods. The agreement with Mozambique excludes some of Malawi's key exports from preferential access but includes a provision on trade facilitation in line with Mozambique's role as a transit country for Malawian exports. By contrast, the 1967 agreement with South Africa provides Malawi with unilateral preferential access to that country's market.

## A growing trade deficit in recent years

Malawi's exports are dominated largely by tobacco, with the sector "Tobacco and manufactured tobacco" (HS 24) accounting for nearly half (48%) of total exports during the period 2011-2015.<sup>6</sup> These exports helped the country to sustain a positive trade balance (in goods) until 2005. Trends for total exports (All X) and imports (All M) over the past 15 years are depicted by the dashed lines in Figure 2. The strong dependence of exports on the tobacco sector can be observed when these products are excluded. Solid lines X and M show long-term patterns of Malawi's exports and imports excluding tobacco, minerals and arms (definition of trade data used hereafter).<sup>7</sup>

The gap between imports and exports has continuously widened since the beginning of the period, with an increase in magnitude since 2007, when imports rose significantly. While Malawi's imports in 2011 amounted to less than double its exports, in 2013, imports were already 3.6 times the export value.<sup>8</sup> The ever-growing trade deficit is glaring and illustrates the fragility of Malawi's trade bill, keeping in mind that stricter anti-smoking legislation around the world is likely to weigh heavily on import demand.

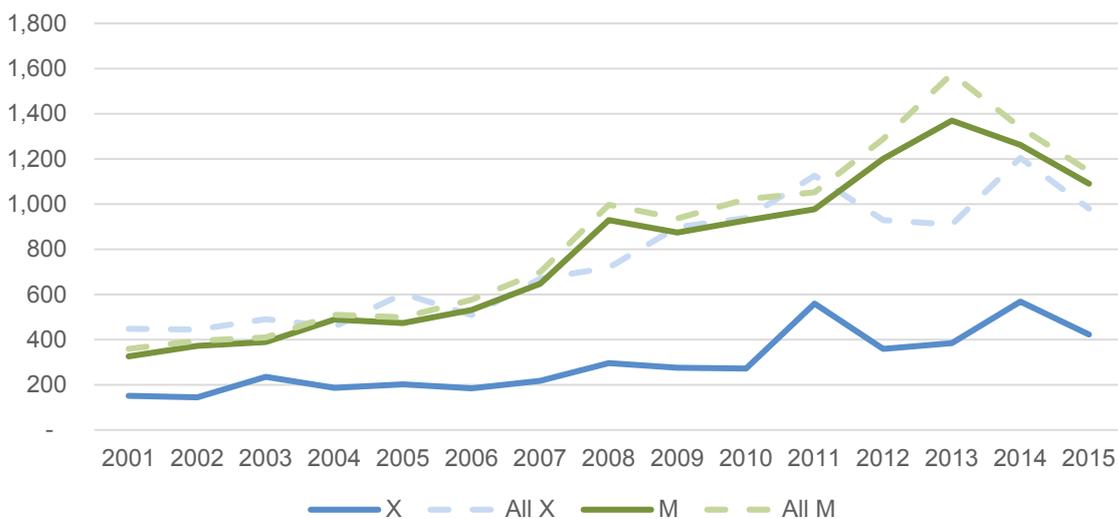
<sup>5</sup> See Malawi's Trade Portal, <http://www.malawitradeportal.gov.mw/?r=site/display&id=120>.

<sup>6</sup> Unless otherwise specified, trade-related figures presented in this and all following sections are based on a mix of mirror and direct data for the period 2011-2015. Raw data come from the ITC Trade Map (2017).

<sup>7</sup> These sectors are excluded from the analysis as they do not fall within ITC's scope of action for trade promotion activities, given that they are covered by international conventions or dominated by multinationals. The sectors comprise minerals, arms and ammunitions, tobacco, waste products, antiques older than 100 years, etc. With the exception of tobacco, this exclusion does not affect the country's export and import patterns.

<sup>8</sup> Between 2001 and 2016, Malawi's exports grew at a slower pace (6.4%) than its imports (8.4%).

Figure 2 Evolution of Malawi's trade balance (goods only)



**Note:** Aggregate exports and imports are displayed as dashed lines. Solid lines refer to export (imports) excluding minerals, tobacco and arms.

**Source:** ITC calculations, based on data from the ITC Trade Map (2017).

## Dual challenge: Export slowdown, limited diversification

Figure 3 shows the breakdown of Malawi's exports by sector. The sector "Other vegetal products" includes major export crops like cane sugar and groundnuts and represents one fourth of total exports. Black tea is the most important exported good in the "Beverages" sector, comprising 16% of exports. These two main sectors recorded a negative export growth performance between 2011 and 2015.

The "Horticulture" sector, by contrast, has grown during the same period, accounting for 11.7% of exports. The main export commodities of this sector are peas and macadamia nuts. Textiles and wood products have shown a declining pattern in recent years, and their contributions to total exports are \$49 million and \$43 million, respectively (9% and 8% of exports).

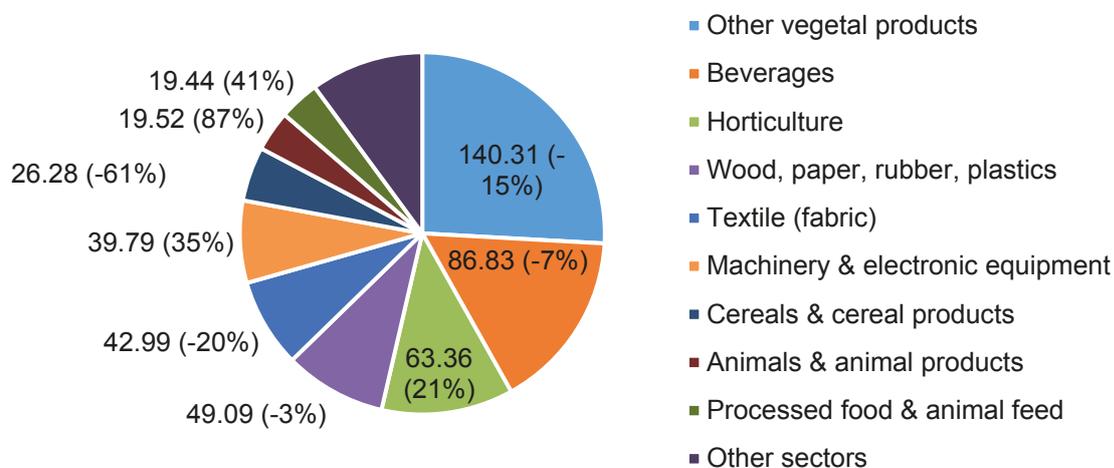
"Machinery and other equipment" is the sixth largest sector for Malawian exports in recent years, although machinery exports are likely to be re-exports of equipment imported to the country, for instance as part of the recent construction of the railway to Nacala a Velha (Mozambique).<sup>9</sup> All other sectors represent around 20% of Malawian exports. The recent performance of the country's exports has been mainly driven by a growing horticultural sector and by machinery re-exports.

Figure 4 presents the most important destinations for Malawi's exports. The top three are all SADC members: South Africa, Zimbabwe and Mozambique.<sup>10</sup> Taken together, they comprise 37% of Malawi's exports. While the two main markets, South Africa and Zimbabwe, are in decline, there is a significant surge of exports to neighbouring Mozambique (22% of annual export growth on average between 2011 and 2015). The fourth, fifth, seventh and ninth largest export markets are all overseas: the United Kingdom, India, the United States and the United Arab Emirates. While exports to traditional partners, like the United Kingdom and the United States, are slowing down and are concentrated in traditional crops (tea and sugar), exports to India and the United Arab Emirates are on the rise. Peas are the dominant export to India. Exports to the United Arab Emirates consist of cotton, tobacco, black tea and other edible vegetables. The Zambian and Kenyan markets, currently ranked sixth and eighth, have both lost importance for Malawian exporters; exports to Kenya in particular decreased sharply, by 32% annually between 2011 and 2015.

<sup>9</sup> This railway project was formally completed on 12 May 2017.

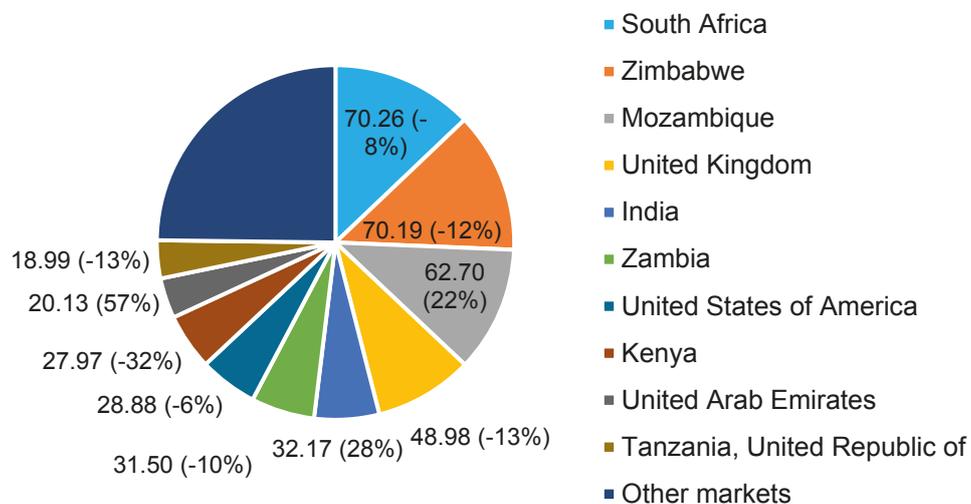
<sup>10</sup> Zimbabwe is also a member of COMESA.

Figure 3 Malawi's key export sectors (\$ million and growth rate 2011-2015)



**Note:** Average export value in \$ million, 2011-2015; in brackets: compound annual growth rate between 2011 and 2015.  
**Source:** ITC calculations, based on data from the ITC Trade Map (2017).

Figure 4 Malawi's key export partners (\$ million and growth rate 2011-2015)



**Note:** Average export value in \$ million, 2011-2015; in brackets: compound annual growth rate between 2011 and 2015.  
**Source:** ITC calculations, based on data from the ITC Trade Map (2017).

The indicators of 'equivalent' products and markets measure Malawi's export diversification. According to the notion of equivalent products,<sup>11</sup> Malawi's export basket seems relatively diversified when compared to other countries in the SADC region, which are often heavily concentrated in exports of natural resources or cash crops (see Table 1).

Compared with developing countries in general, however, Malawi shows however a low level of product diversification. In terms of markets, it outperforms both other SADC members and developing countries in general. The result of a relatively high number of equivalent markets coupled with a low number of equivalent products can be explained by the country's focus on few major export crops that reach numerous markets: black tea, for instance, is exported, by decreasing value of exports, to South Africa, the United Kingdom, and the United States; raw cane sugar to the United Kingdom, Spain, Italy, and Portugal; cotton to the United Arab Emirates, South Africa, Hong Kong SAR, and Singapore; groundnuts to the United Republic of Tanzania, Kenya, Zambia, and Zimbabwe; and macadamia nuts to the United States, Japan, South Africa, and the Netherlands.

The main challenge thus seems to be the development of new, non-traditional export products that may, once export-ready, be able to leverage existing market linkages established by the traditional export sectors.

Table 1 Malawi's product and market diversification

	No. of equivalent products	No. of equivalent markets
Malawi	16.0	13.9
Other SADC countries	10.6	8.7
Other developing countries	20.0	8.7

**Source:** ITC calculations, based on 2011-2015 data from the ITC Trade Map (2017).

The challenges identified in the area of trade have been accompanied by a growing GDP since 2002. Many observers argue that aid flows, and the expansionary fiscal and monetary policy made possible since the external debt relief of 2005, have driven the GDP growth.<sup>12</sup> These measures, however, have not (yet) helped establish a sufficiently large export base, a challenge also identified by the National Export Strategy (NES) 2013-2018, whose objective is "to provide a clearly prioritized roadmap for building Malawi's productive base to generate sufficient exports to match the upward pressure on Malawi's imports". This paper contributes to that objective by providing up-to-date evidence on promising sectors and products for export growth and diversification.

## Bridging the gap with export potential analysis

In order to counter the trends described above, it is crucial that Malawi boosts its exports and develops further productive capacity in line with its national capabilities. To support the prioritization of sectors and markets, the International Trade Centre (ITC) developed its export potential and diversification assessment methodology,<sup>13</sup> which identifies growth opportunities for already-exported products and

<sup>11</sup> The number of equivalent products is computed as the inverse of the Herfindahl-Hirschman index (HHI), which measures the concentration of the export baskets of countries. The measure is described in detail in Appendix II. As used herein, the term 'equivalent' means that a given number – for instance, 16 – corresponds to the number of products at the 6-digit level of the Harmonized System (HS) that Malawi would export if all were exported at exactly the same value. In reality, Malawi exports more than 16 products, but some of them at much larger values than others. This non-homogenous distribution of export values across products leads to a reduction in the equivalent number of products.

<sup>12</sup> See, for instance, <http://www.worldbank.org/en/country/malawi>.

<sup>13</sup> Decreux, Y. and J. Spies (2016). Export Potential and Diversification Assessments – a methodology to identify export opportunities for developing countries, ITC, mimeo.

possible candidates for product diversification through two indicators – the export potential indicator, and the product diversification indicator. Both indicators consider:

- The current and prospective supply capacity of Malawi for a given product;
- The current and prospective demand for that product in a given target market, as well as its accessibility for Malawian exporters in terms of tariffs and transportation;
- The overall ease of trade between Malawi and each of these target markets.

The export potential indicator calculates a benchmark trade value in dollar terms that can be compared with actual export values in order to find opportunities for additional export growth across existing and new target markets. This untapped potential may reflect a number of underlying causes, including lack of knowledge or difficulties in complying with market entry requirements, diverging consumer preferences or tastes, and quality considerations.

The product diversification indicator calculates a unique ranking of product diversification opportunities in any given market that has good chances of export success. It tends to capture opportunities to diversify horizontally into products that are located at a point on the value chain that is similar to that for Malawi's current exports.

Like many other developing countries, Malawi is struggling to move into the production of transformed or sophisticated products that could reduce its dependence on raw or barely processed products.<sup>14</sup> In keeping with that effort, this paper develops a specific extension of the methodology and its customized application to Malawi in order to provide technical guidance for upgrading to higher value added products.

Starting from a set of raw or semi-transformed products, which Malawi already exports competitively to international markets, the extension examines how this initial set of products can be used in the elaboration of more processed products. Demand and the ease-of-trade considerations are also taken into account to allow the identification of new ventures with good chances of export success in products with increased value added. As a result, a new indicator, the value chain indicator, identifies entire and comprehensive supply chains for Malawi. Diversification into export opportunities with increased value added is hereafter referred to as vertical diversification.

Thanks to the comprehensive coverage of ITC trade data on goods, export and diversification potentials can be calculated at a detailed product and market level.<sup>15</sup> The methodology excludes products violating international conventions or not relevant to export promotion activities, such as arms and ammunitions, tobacco, pollutants, mineral products, etc.

The identification of export potential and of horizontal and vertical diversification opportunities follows a quantitative approach using data that have been treated to reduce the impact of outliers and incorrectly or inconsistently reported data. However, unmeasurable or intangible factors, along with very recent events, could also affect the calculated export and diversification measures, and thus the prioritization of products and markets.

To complement the quantitative findings, ITC held a series of meetings with key stakeholders in Lilongwe and Blantyre in July 2017.<sup>16</sup> The idea was to conduct a 'reality check' of the opportunities identified by the quantitative assessment and to understand the hurdles that have prevented these opportunities from materializing. Additional information collected during the interviews has been provided in order to place the opportunities in context.

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<sup>14</sup> There is no single definition of processed or manufactured products. The National Industrial Policy and the National Export Strategy (NES) of Malawi recognize clusters, such as oilseed products and sugar cane, as manufactured products.

<sup>15</sup> The methodology considers more than 4,000 products that correspond closely to the HS 6-digit level and 222 exporters and markets.

<sup>16</sup> See Appendix IV for the full list of interviewed national agencies and institutions during an ITC field mission in July 2017.

## CHAPTER 2 NEW OPPORTUNITIES

Malawi's export potential is concentrated in eight sectors (see Figure 5: traditional ones like sugar, tea, oilseeds, wood and vegetable products, pulses and other cereals, and non-traditional ones like animal products and plastics). These sectors represent 91.7% of the country's total export potential and 91.9% of its total unrealized potential.<sup>17</sup>

Each sector comprises one or more products that drive this potential. The size of each product bubble in the figure reflects its respective export potential. The figure also lists opportunities for product diversification in sectors with high export potential.

Two traditional products – raw cane sugar and black tea in bulk –, together account for 49.4% of Malawi's total export potential, and enjoy high demand worldwide. The country has not yet managed to develop any significant export potential in other products within the sugar or tea sector. The remaining six sectors account for 42.3% of total export potential.

Here again, in most cases the sectoral export potential is heavily driven by a single successfully exported product (Pisum sativum peas in pulses, groundnuts in oilseeds, birds' (chicken) eggs in animal products, and macadamia nuts in nuts). This highlights Malawi's dependence on a very narrow export basket. Of the six other sectors, the plastics sector offers an interesting pallet of five products, each with an export potential above \$3 million.

Most of the sectors with export potential also offer opportunities for product diversification, for instance, into sesame seeds, crude groundnut oil, palm oil, sunflower-seed oil and soya bean oil in the oilseeds and vegetable oils sector, into cashew nuts in the nuts sector, and into cane molasses and refined sugar in the sugar sector. Only tea and plastic products offer no possibility for export diversification.<sup>18</sup> Five other products – unrelated to any of the eight sectors with export potential – have been identified as diversification opportunities (see upper righthand corner of Figure 5).

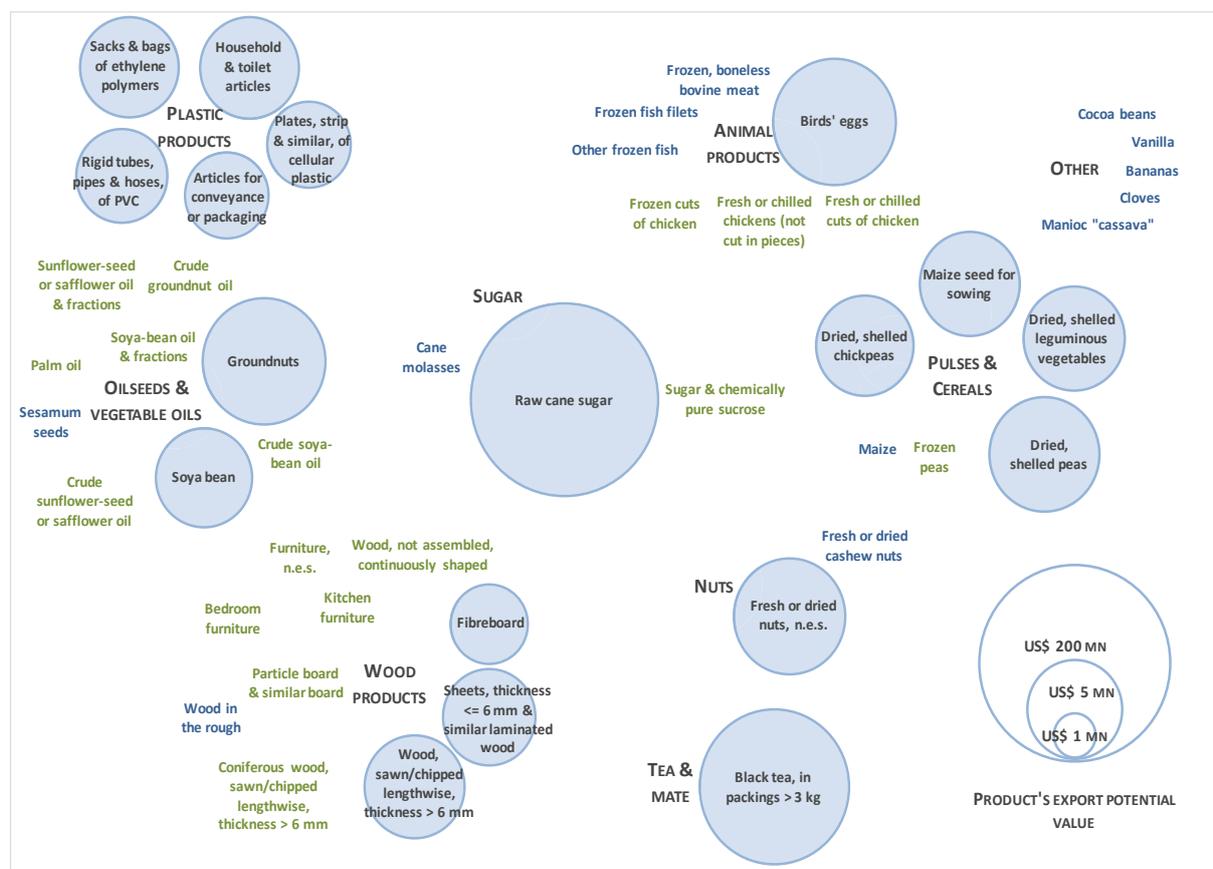
Figure 6 displays current export values and the percentage of unrealized export potential at the product level. Shares of untapped export potential are generally high for Malawi across all products, including its most important export product, raw cane sugar.

Only in black tea and dried, shelled leguminous vegetables do Malawian exporters manage to tap most of the current potential. Black tea shows a high level of market diversification, whereas dried, shelled leguminous vegetables are successfully exported to only a few markets: the United States, South Africa and the Netherlands.

<sup>17</sup> Export potentials in machinery are disregarded as they are likely due to re-exports of old equipment.

<sup>18</sup> Black tea in small packages is already exported in small quantities and thus does not represent a genuine opportunity for product diversification. However, because its export potential is very low, it is discussed as a diversification option in the sector highlights (p. 22).

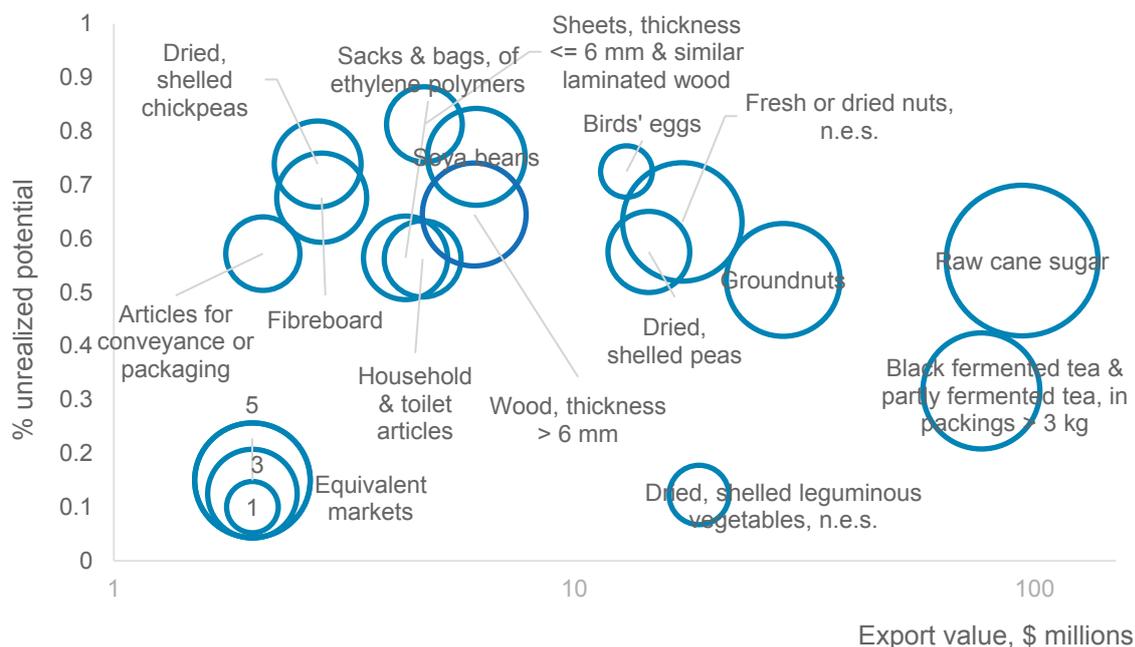
Figure 5 Products with potential for growth in bilateral exports and opportunities for diversification in the most promising sectors



**Note:** Products are clustered by sector and sector names are capitalized. All sectors with opportunities for export growth valued at \$10 million or more are presented in this figure. Products concentrating 80% of export potential in each of these sectors are listed next to the sector names, and product names are coloured black. The size of the bubble associated with these products represents its export potential value. Opportunities for horizontal and vertical diversification are also presented (no bubble is shown for these products). Product names for horizontal opportunities are coloured blue. Horizontal opportunities are above an estimated product diversification indicator (PDI) value of 1 and account for 95% of the total PDI value associated with their respective sector. Product names for vertical opportunities are coloured green. Vertical opportunities are above an estimated value chain indicator (VCI) value of 1 and represent 95% of the total VCI value associated with their respective sector.

**Source:** ITC calculations, based on the export potential and diversification assessment methodology.

Figure 6 Performance of products with export potential



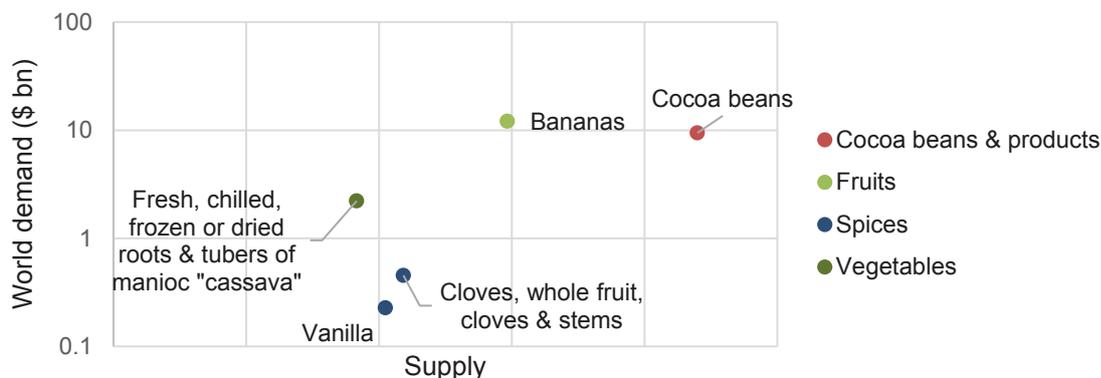
**Note:** Bubble size represents market diversification (number of equivalent markets measured as the inverse of the Herfindahl-Hirschman index). Products accounting for 80% or more of each sector's export potential are displayed in this figure.  
**Source:** ITC calculations, based on the export potential and diversification assessment methodology and on data from the ITC Trade Map (2017).

Figure 7 shows promising horizontal diversification opportunities in four main sectors where Malawi has no potential, or only limited potential, for exports: fruits, cocoa beans, spices, and vegetables. The country currently exports three varieties of pepper for a value of \$2.2 million in the spices sector, less than \$270,000 in different vegetable products, and less than \$10,000 in fruits.

No exports of cocoa beans have been registered since 2011. Among the previous products, both bananas and cocoa beans appear to be closely linked with Malawi's current export basket and hence most feasible for export diversification. At the same time, world demand for these products is considerable (above \$15 billion each).

Figure 8 shows promising possibilities for vertical product diversification in sectors where Malawi already has products with export potential. Vegetable oils elaborated from oilseeds are situated on the right-hand side of the graph, indicating that Malawi possesses crucial production inputs (seeds) and capabilities required for their production and export. Fresh and frozen animal products and wooden furniture are other apparently feasible options for value chain development. Sugar and pulses also offer opportunities for value chain development, for instance for refined sugar and cane molasses, and frozen pulses.

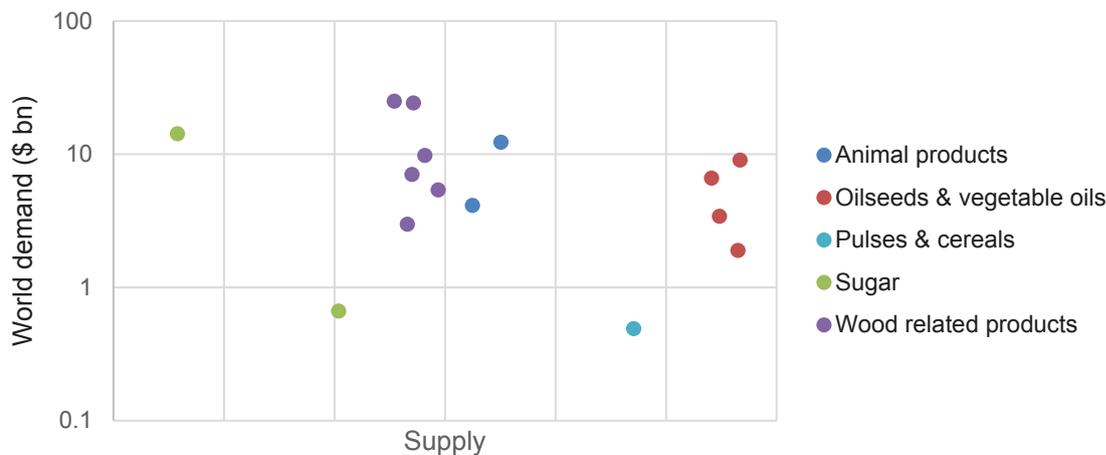
Figure 7 Malawi's opportunities for diversification into new products



**Note:** Values on the x axis correspond to the estimated supply factor for horizontal diversification according to the export potential and diversification methodology. Only products within the top 95% of Malawi's potential for horizontal diversification in each sector are considered.

**Source:** ITC calculations, based on the export potential and diversification methodology and on data from the ITC Trade Map (2017).

Figure 8 Malawi's opportunities to upgrade its current exports



**Note:** Values on the x axis correspond to the estimated supply factor for vertical diversification according to the export potential and diversification methodology. Only products within the top 95% of Malawi's potential for vertical diversification in each sector are considered.

**Source:** ITC calculations, based on the export potential and diversification methodology and on data from the ITC Trade Map (2017).

The global assessment provided in this general overview has helped narrow down the list of sectors for more detailed analysis. All opportunities will be scrutinized hereafter through an in-depth quantitative analysis and, most importantly, the stakeholder interviews.

For each sector, the following subsections present:

- Products with large export potential and attractive target markets;
- Products that could represent opportunities for within-sector diversification (horizontal product diversification);
- Promising products for value chain development relying on inputs that are already available in the country (vertical product diversification).

For the product-market combinations within each sector that feature the highest untapped export potential, further elements of supply, demand and preferential market conditions are discussed. Sectoral results are contextualized with information gathered from the ITC meetings with key stakeholders in Malawi. All results discussed below rely on trade data from the period 2011-2015 and list markets in decreasing order of current or potential export value, unless otherwise specified.

## Tea: Limited possibilities for value addition

Black tea is a traditional export item of Malawi and represents 14% of national exports, amounting to \$77.7 million. Some 98% of those exports comes in bulk packages >3 kg; only a small share (corresponding to \$1.1 million) is exported in packages <3 kg. Malawi is one of the largest suppliers of tea in bulk (ninth largest world exporter), accounting for 2.1% of world exports.

Exports in large packages are shipped to South Africa (32.2%), the United Kingdom (27.4%), the United States (9.5%) and Kenya (5.1%), which together account for 74.2% of all exports of this product. The product also reaches other developed countries (Germany, Netherlands, Poland, Belgium, Canada, and Switzerland), emerging countries or economies in transition with high or growing demand (United Arab Emirates, Singapore, Pakistan, Russian Federation, Egypt, India and China) and other developing countries in Africa (Botswana). Tea in small packages goes to South Africa, Saudi Arabia, India and Zambia.

### Growth potential for current exports

Figure 9 (left-hand panel) shows that, as with actual exports, the sector's export potential (99%) is concentrated in tea exported in large packages. The analysis of this potential therefore focuses on this product.

Kenya is the market with the largest untapped potential for Malawian tea, accounting for almost one third of that potential (Figure 9, right-hand panel). Its demand for the product is on a par with that of South Africa – the main destination for Malawian tea – and trade links between the two countries are relatively strong (high ease-of-trade).

Both Kenya and South Africa grant preferential tariff conditions to Malawian tea exporters, adding further to the export potential. However, only 29% of the potential to Kenya is currently tapped, which makes this market the most promising source of export growth (\$9.5 million). South Africa, offers comparably limited opportunities for additional exports (\$2.4 million).

The SADC region as a whole, however, accounts for almost 39.3% of Malawi's untapped export potential in this product. Zimbabwe and Mozambique would be interesting new markets for Malawian tea exporters. Their export potential is driven by the general ease with which Malawi can trade with them, while their demand remains relatively modest (\$2.2 million for Mozambique and \$3.6 million for Zimbabwe).<sup>19</sup> Botswana's moderate demand (\$4 million) is also expected to grow rapidly.

Overseas, the United Kingdom, the second most important destination for Malawi's tea exports, offers no further opportunities for export growth, while the United States market represents a small untapped export potential of \$799, 000.<sup>20</sup> Some other large importers of tea, such as the United Arab Emirates and Japan, offer room for additional exports from Malawi, with 60% and 89% of their export potential yet to be realized.

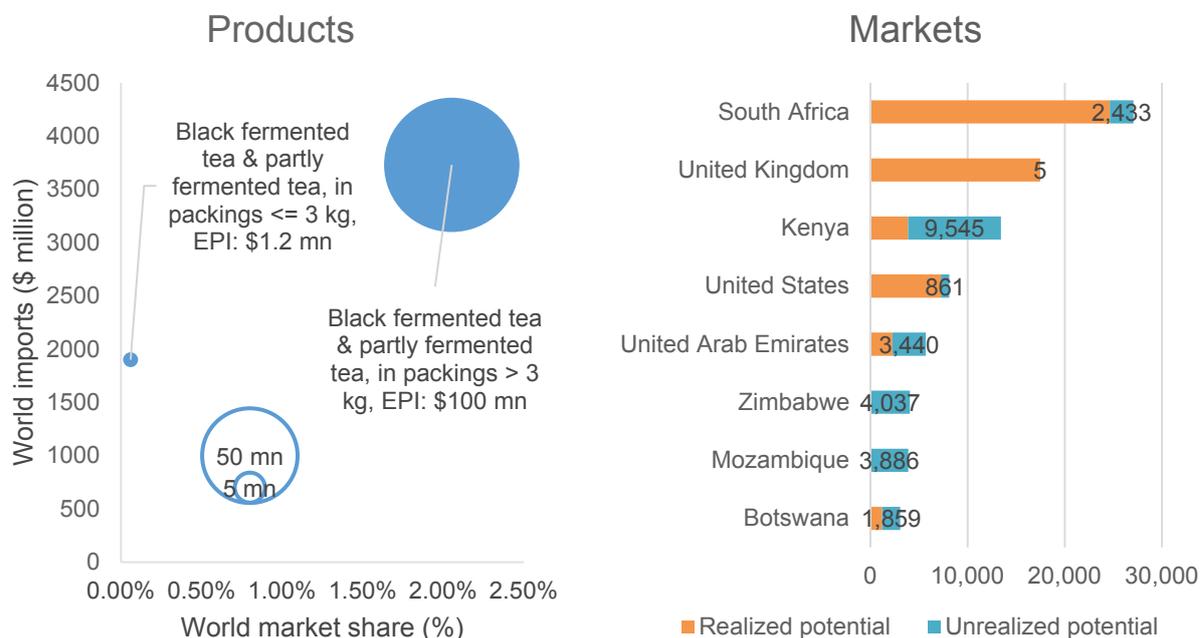
In general, the tea sector is perceived to have limited spillovers on the economy, although it is still one of the most important revenue sources for Malawi. Tea production faces major challenges to expansion, as there are only limited possibilities for increasing land allocation (NES, 2013). The use of pesticides, nurseries, improved plucking and the increase of irrigation-fed plantations will be needed to raise productivity and should thus be part of the mix of policies and initiatives for increasing the country's supply capacities.

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<sup>19</sup> A similar situation is found in Zambia, where demand for tea is even lower.

<sup>20</sup> Similarly, the export potential to Germany and Pakistan is currently fully realized.

Figure 9 Export potential for black tea, by product and market



**Note:** Only products with total export potential above \$200,000 are considered in the left-hand panel. Only markets within the top 80% of Malawi's export potential of tea are considered in the right-hand panel. Numbers refer to untapped export potential (in \$ thousand).

**Source:** ITC calculations based on the export potential and diversification methodology.

The export potential can only be fully unlocked through targeted export promotion strategies. Interviewees, however, said that Malawian tea was appreciated for both its colour and its neutral aroma, and a significant part of the demand comes from other producers and blenders of tea (South Africa, United Kingdom, Kenya, the United States and the United Arab Emirates). This might partially explain why tea is sold locally through the Tea Association of Malawi, which provides a structured framework for auctions and enhances trust between local traders.

The same characteristics of Malawian tea that make it suitable for blending, however, could prevent the country from exporting it to final consumption markets (the attractiveness of its colour and neutral aroma are offset by its lack of a characteristic flavour or taste). In addition, the mismatch of supplied and demanded varieties will make it difficult for Malawi to realize the export potential identified for these markets.

### Growth opportunities through product diversification

Malawi has developed some potential for exporting black tea in smaller packages. While the product in bulk is shipped for further processing, exports of tea in small packages are predominantly directed to the final consumer. Currently, this product is exported to three main markets: South Africa, Saudi Arabia and India. However, as mentioned above, the characteristics of the local variety seem to prevent Malawi from seizing this opportunity and further expanding exports.

## Nuts: Market hand-picked macademia nuts

In 2015, Malawi was the eighth largest exporter of macademia nuts in shell (\$2.6 million, or 0.8% of the world market) and the sixth largest exporter of shelled macademia nuts (\$17 million, or 4.3% of the world market). South Africa is the biggest competitor for both sorts of macademia nuts. It dominates the world market in shell (nearly 50%) and holds a sizeable share (23%) of the market for shelled macademia nuts.

### Growth potential for current exports

Since the 2012 revision of the HS, macademia nuts in shell or shelled correspond to two different 6-digit codes (HS 080261 for nuts in shell and HS 080262 for shelled nuts). However, the methodology requires a five-year span for the calculation of export potential and diversification opportunities, and macademia nuts are thus placed in a broader group, 0802Xc,<sup>21</sup> which also encompasses other types of nuts. This makes a separate export potential analysis of the product impossible, even though trade figures from 2015 suggest that macademia nuts are the major driver of Malawi's exports of this product group.

Other nuts (including macademia) are already shipped to developed countries (United States, Japan, Netherlands, United Kingdom, Germany, Hong Kong SAR, and Taiwan Province of China) and to South Africa. Worldwide, Malawi is the 23<sup>rd</sup> largest exporter of this product group, with a world market share of 0.8%. The group's total export potential is valued at \$30.4 million, of which 63% is yet to be realized. India is the market with the largest such potential (\$5.5 million), but it has not yet been targeted by Malawian exporters, and hence its potential is fully untapped. According to data from the ITC Trade Map, however, in 2015 India had hardly imported any macademia nuts, which suggests that the large potential stems from demand for other types of nuts in the same product group.<sup>22</sup>

Figure 10 shows that the United States – the world's largest importer of shelled macademia nuts (34%) in 2015 – is the country with the second highest potential for Malawian exports of product group 0802Xc (\$4.2 million). South Africa, itself a big supplier of shelled macademia nuts, is also becoming a major importer of nuts in shell for further processing, with a potential of \$3.1 million. However, Malawi's exports already exceed potentials in these two destinations, meaning that any further sales expansion could prove difficult.

Italy, Hong Kong SAR, Spain and Belgium offer room for export growth, with untapped export potentials ranging from \$2.9 million to \$1.1 million. Each opportunity has to be analysed in detail. For instance, demand from Hong Kong SAR for macademia nuts is largely driven by re-exports to mainland China. Malawi thus has considerable scope for expanding its current exports of \$462,000 (82% of unrealized potential). The Netherlands (the 10<sup>th</sup> largest destination with export potential for Malawi) plays a similar role within Europe.

While Malawi's current exports largely exceed potential exports to this market, as a trade hub, the Netherlands channels exports into other European countries. For instance, Germany's market potential for macademia nuts likely exceeds the \$1 million indicated in Figure 10, as many exports directed to that market are in fact registered as exports to the Netherlands.

The United Kingdom shows an untapped potential of \$887,000. The market is currently dominated by South Africa, Netherlands (again through re-exports), Italy and Kenya, and Malawi accounts for less than 2% of imports. Nonetheless, even though this market is not as large as the German market for macademia nuts, its geographic position is such that Malawian exporters can sell to it directly.

Italy and Belgium are two currently unserved markets. In 2015, together they imported more than \$16 million of shelled macademia nuts, mostly from Australia and South Africa (the two suppliers accounted for 88% of total imports). Realizing the untapped export potential in these two markets would involve fierce competition

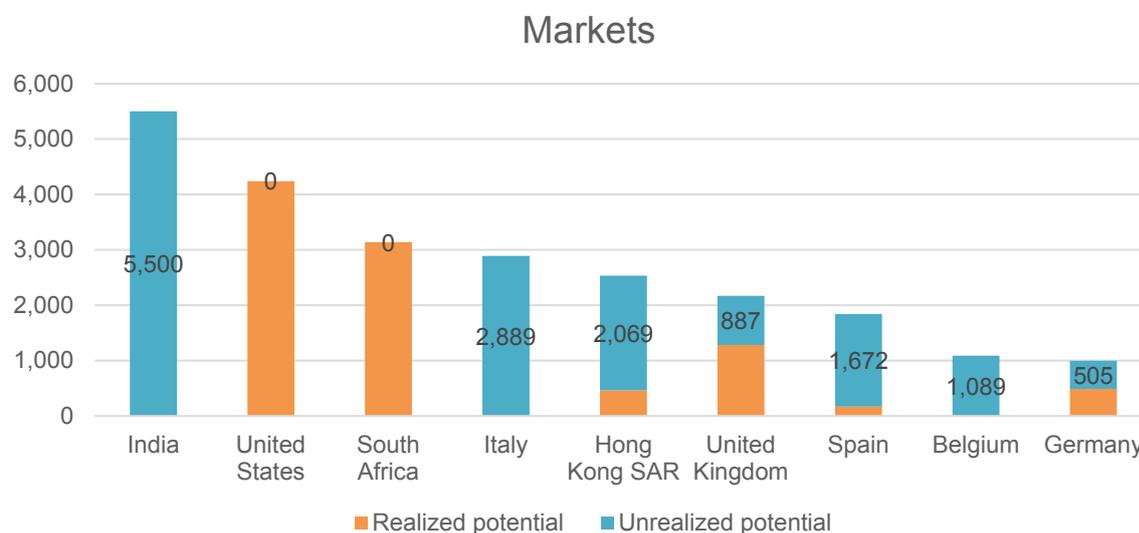
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<sup>21</sup> The export potential assessment methodology uses this grouping to compare results of average values for exports and imports over the five-year span across all countries around the world. Malawi has not yet implemented the 2012 revision, and data for macademia nuts are reported as in the 2007 revision, which used a single code lumping shelled nuts and nuts in shells together.

<sup>22</sup> In 2015, India reported no imports for macademia nuts in shells and only \$12,000 worth of imports for shelled macademia nuts. Mirror data confirmed the low demand for macademia nuts.

from well-established suppliers. The situation is similar in the Spanish market, even though Malawi has already exported small volumes of the shelled product there.

Figure 10 Export potential: markets for fresh or dried nuts<sup>23</sup>



**Note:** Only markets within the top 80% of Malawi's export potential in fresh or dried nuts (HS 0802Xc) are considered. Numbers refer to untapped export potential (in \$ thousand).

**Source:** ITC calculations based on the export potential and diversification methodology.

To realize untapped potentials, it is important to understand how the international macadamia market operates and how the production process works. Macadamia nuts production cannot be immediately scaled up, as plantations require several years before becoming productive. The fruit is considered to become tastier and therefore of better quality as the tree ages. The expansion of sales to Hong Kong SAR, where demand is concentrated on the nut in shell, needs to take this mid-term investment into account.

In parallel, achieving high quality requires a mastery of the production process, which includes a proper, long and well-implemented drying process to reduce moisture before the extraction of the kernel. Once the kernel can be extracted without damage, product conservation is extended by two to three years. Some countries like Japan tend to buy the production at this stage to benefit from the prolonged shelf life and avoid price fluctuations. Shelled nuts are obtained after cracking the shell, and under proper conditions shelf life can be as long as 12 months.

In Malawi, macadamia nuts are hand-picked, which adds to the quality and reduces the risk of breaking the nut. Interviewees perceived this as a key advantage over competitors from Australia or South Africa, which have higher labour costs and can therefore not afford to hand-pick. However, it seems that this characteristic of the Malawian macadamia nut has not yet been sufficiently marketed.

<sup>23</sup> Group of fresh and dried nuts (excluding coconuts, Brazil nuts, cashew nuts, almonds, hazelnuts, filberts, walnuts, chestnuts and pistachios).

### Growth opportunities through product diversification

According to ITC analysis, cashew nuts (shelled or in shell) appear as a feasible opportunity for product diversification within the sector because (i) the tree fruit requires a labour-intensive post-harvest treatment similar to that for macadamia nuts and (ii) other countries in Southern Africa already export the product (United Republic of Tanzania, Mozambique and South Africa). All of this suggests that Malawi possesses the required capabilities and climate to develop this product.

The world market for the two types of cashew nuts is worth more than \$4.8 billion. Competition comes from neighbouring United Republic of Tanzania and Mozambique and, internationally, from Viet Nam and India. Malawi could benefit from exports within its already-established trade relationships with such economies as the United States, Germany, the Netherlands, Japan, Hong Kong SAR, and China, which are large importers of either the shelled product or the product in shells and which grant Malawi duty-free market access.

The high labour intensity at different stages of the post-harvest production process could be a significant source of employment. Like macadamia nuts, cashew nuts require a mid-term investment in the tree plantations, which only become productive after three to five years. Furthermore, cashew nuts will be in direct competition for arable land with other crops or even with macadamia nuts unless irrigation programmes make more land available. Malawi may thus want to focus on exploiting the potential in the existing export sectors.

## Chicken eggs, poultry: Exploit regional opportunities

Following a recent surge in exports of birds' (chicken) eggs to Mozambique (353% annual growth between 2011 and 2015, or \$35 million worth of additional exports), Malawi has become the 36<sup>th</sup> largest exporter of birds' eggs, with a world market share of 0.3%. This performance has been accompanied by a more moderate increase in exports of frozen chicken to Mozambique. Small exports of other live animals to United Republic of Tanzania, Zimbabwe and Mozambique have been reported as well.

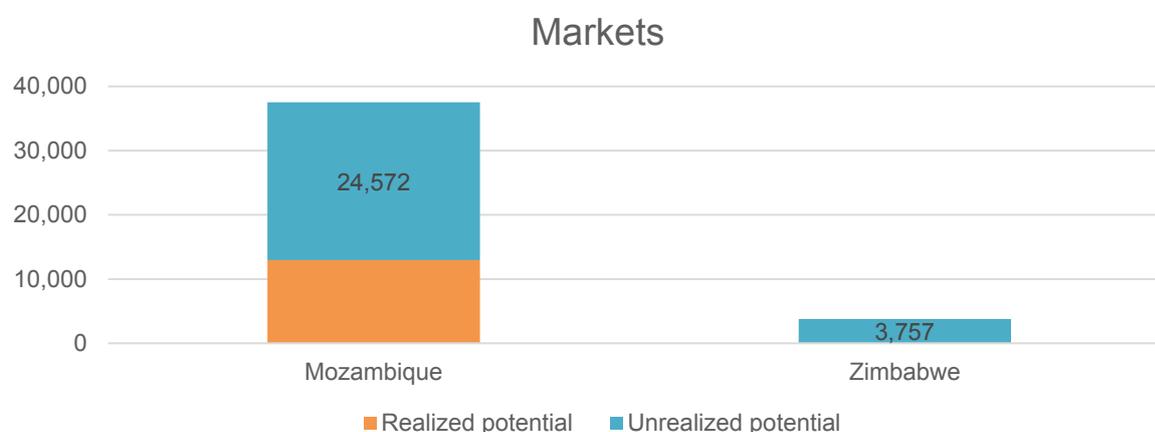
### Growth potential for current exports

The total export potential of the sector is \$47.1 million, 72% of which is yet to be realized. Chicken eggs are the only product with confirmed export potential in this sector. Figure 11 shows that most of that potential is concentrated in neighbouring countries. In fact, Mozambique alone absorbs almost 80% of Malawi's total export potential for eggs. This is backed by strong and growing demand, currently worth \$25.2 million.

With large multinational companies dominating the scene, however, it will be difficult for Malawi to compete in more distant markets. But competition is increasingly felt also in the regional market. Interviewees mentioned that Mozambique is looking to increase its own production as part of a general effort to reduce its dependence on food imports and create employment.

Untapped export potentials are also identified in Zimbabwe and United Republic of Tanzania, but these opportunities may be difficult to realize. The Zimbabwean market is dominated by South Africa (90% of the market) and Zambia, but the difficult economic situation in Zimbabwe has recently led to declining imports (-17% between 2014 and 2015). Zambian exports also dominate the Tanzanian market, but strong import demand in 2016 may offer room for additional suppliers. Thanks to SADC and other bilateral agreements, both Malawian exporters and their main competitors benefit from duty-free access to these markets.

Figure 11 Export potential: markets for birds' eggs



**Note:** Only markets within the top 80% of Malawi's export potential in chicken eggs (HS 0407) are considered. Numbers refer to untapped export potential (in \$ thousand).

**Source:** ITC calculations based on the export potential and diversification methodology.

### Growth opportunities through product diversification

The ITC export potential and diversification methodology identifies poultry products – especially frozen cuts of chicken and fresh or chilled cuts of chicken – as interesting opportunities for vertical diversification in regional markets (Figure 12, right-hand panel). The most promising markets for frozen cuts of chicken are

Mozambique, South Africa and Zimbabwe. The most promising markets for fresh products are also within the region and include Mozambique, Botswana and Lesotho.

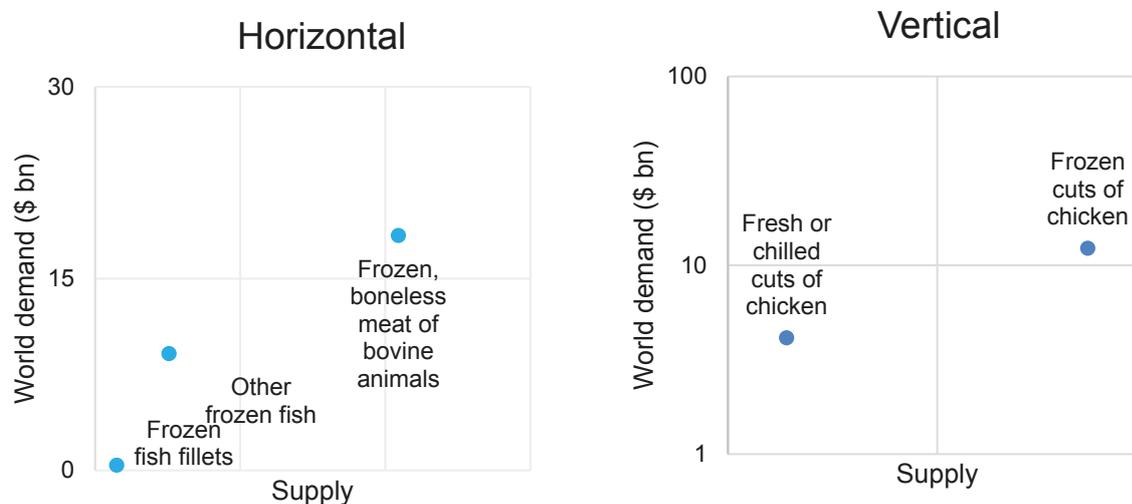
The production of chicken meat would require investment in facilities for slaughtering and conservation. Transport requirements are also higher than for eggs; refrigerated trucks would be needed. Nonetheless, Malawi already exports small volumes of live animals and entire frozen fowls to the region, which suggests that local capacity exists but needs to be upscaled. Packaging and transport are less complex for exports of fresh products, particularly since the cold/conservation chain is not as demanding as for frozen products. Consumers also tend to prefer fresh to frozen products, although this might evolve over time. Urbanization in Africa is continuously increasing, which could boost the demand for frozen products. In general, lower consumer prices ensure greater acceptance of frozen products.

Moreover, mastery of cold chain products can open new export opportunities for the country in the form of related products, such as other kinds of meat and fish products, prepared meals and bakery products. Such products, which have hitherto seemed to be disconnected from the production of chicken eggs, are shown in the left-hand panel of Figure 12. For instance, frozen and boneless meat from bovine animals has been identified as another diversification opportunity and could become a new sector for Malawian exports as long as land and water resources are made available.<sup>24</sup>

Frozen fish and fish filets could complement current exports of live and dried/salted/smoked fish. Frozen presentations of other products, such as vegetables (peas), could be yet another possibility for further diversification of Malawi's export basket.

It is important to remember that frozen products rely on a continuous supply of electricity, and improvements in electricity supply are key to its development. Other countries in the region have not yet actively exploited these opportunities, and Malawi could take advantage of that market space.

Figure 12 Malawi's opportunities for diversification into new animal products



**Note:** Opportunities for horizontal diversification are shown on the left-hand panel and for vertical diversification on the right-hand panel. Only products within the top 95% of Malawi's potential for horizontal and vertical diversification in the sector are considered.  
**Source:** ITC calculations based on the export potential and diversification methodology.

<sup>24</sup> Bovine meat production is more resource-intensive (land, water, fertilizer) than chicken or pork meat production. See <http://www.smithsonianmag.com/science-nature/beef-uses-ten-times-more-resources-poultry-dairy-eggs-pork-180952103/>.

## Wood products: Investments are key

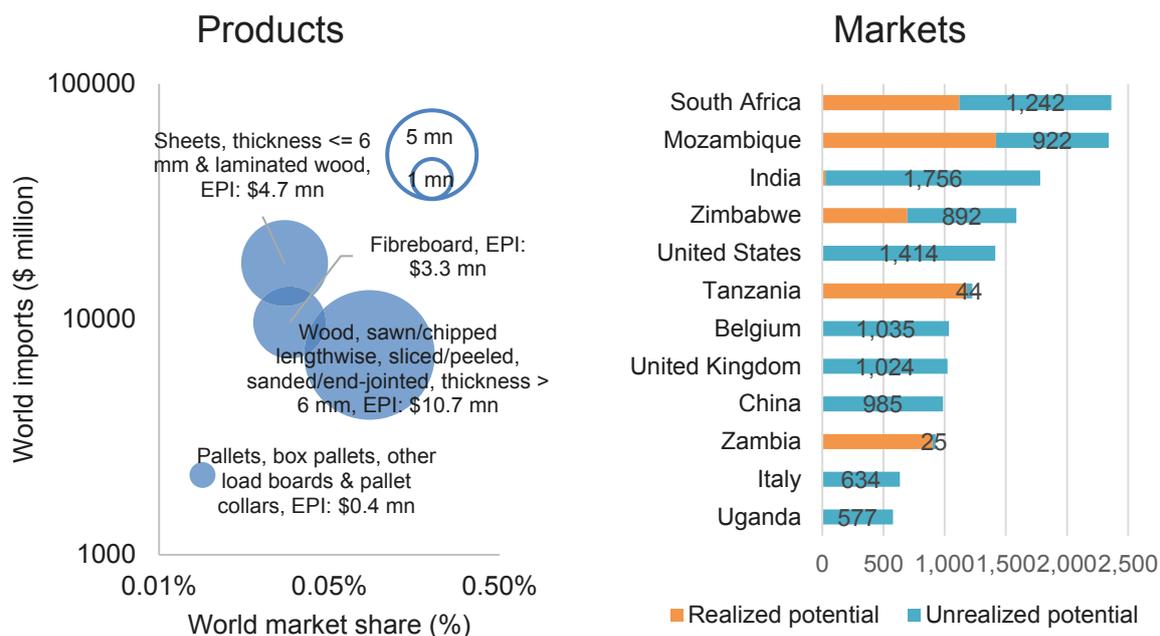
Malawi exports a number of wood-related products for a total value of \$16.3 million. The two most important such products are wood, sawn or chipped lengthwise, and laminated sheets for veneering, which account for 37.1% and 28.9% of exports, respectively. Exports of fibreboards contribute another \$2.8 million (17.3%). Some 86.8% of Malawian exports of this sector go to SADC countries, and the rest is destined for Kenya (7.9%).

The left-hand panel of Figure 13 shows that Malawi is only a small player in the large international market for wood and vegetable material. Even for wood, sawn or chipped lengthwise – Malawi's leading export product in the wood sector – the country captures only 0.09% of the world market.

### Growth potential for current exports

The export potential analysis reflects this regional orientation of wood exports, with four of the 12 largest markets with export potential being SADC members (right-hand panel of Figure 13). Beyond the regional markets, export potentials are driven by high market demand coupled with favourable tariff conditions and generally good market linkages thanks to exports of other products. The overall degree of untapped potential for the sector is 69.6%, suggesting that Malawi could triple its current exports. However, a small exporter like Malawi will face fierce competition from established suppliers in markets that demand large quantities.

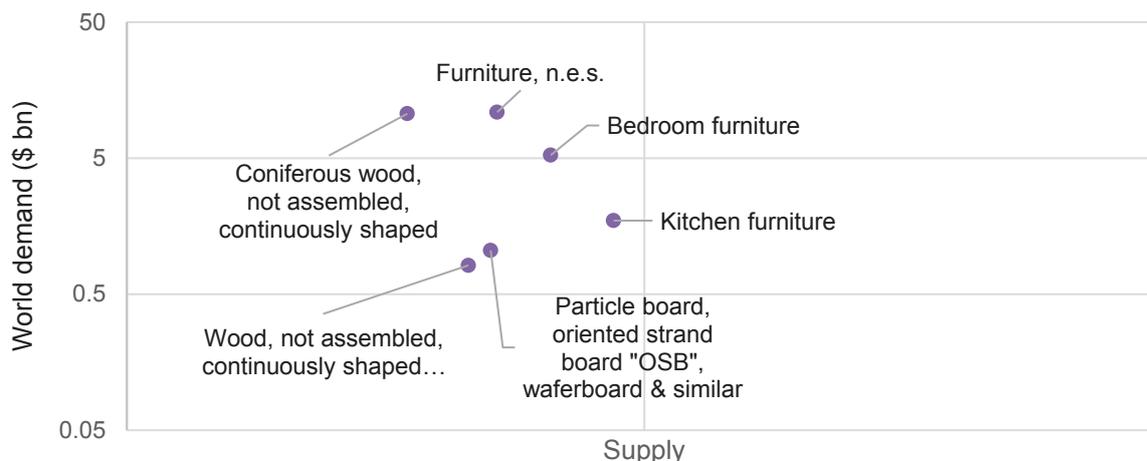
Figure 13 Export potential for wood-related exports, by product and market



**Note:** Only products with total export potential above \$200,000 are considered. Only markets within the top 80% of Malawi's export potential in wood are considered. Numbers next to bar plot refer to untapped export potential (in \$ thousand).

**Source:** ITC calculations based on the export potential and diversification methodology.

Figure 14 Opportunities for upgrading in wood-related products



**Note:** Only products within the top 95% of Malawi's potential for vertical diversification in the sector are considered.

**Source:** ITC calculations based on the export potential and diversification methodology.

Considering only SADC markets, the export potential remains up to 40.8% unrealized. This implies room to grow exports by another \$3.7 million. Most of the untapped potential in the SADC region is concentrated in three markets: South Africa, Mozambique and Zimbabwe. Thanks to high demand and a tariff advantage, Malawi's potential to export wood, sawn or chipped lengthwise to South Africa is estimated at \$2 million, but current exports total only \$848,000.

The same product offers room to ramp up exports to Mozambique by \$735,000, and Malawi could take advantage of its close location to this market. Finally, Zimbabwe offers opportunities, in particular for fibreboards. Malawi already accounts for 10% of imports (\$410,000), and additional exports of \$785,000 may be possible. However, payment delays related to shortages of foreign currency are perceived by several interviewees as major bottlenecks for exporting any type of product to that market. Current exports of laminated sheets for veneering largely exceed potential exports to the SADC region, which points to limited scope for future export growth (\$184,000).

### Growth opportunities through product diversification

Even though wood in rough would be a feasible option for horizontal product diversification, the product may be a less attractive source of export revenue given its low value added.

Options for vertical diversification or value chain development exist in two subsectors. The first subsector comprises coniferous wood and related products, including oriented strand boards.<sup>25</sup> The realization of these opportunities depends on the continuous availability of this kind of wood and has to be balanced against the objective of the Second Malawi Growth and Development Strategy (MGDS II) on the protection of the natural environment and woodlands.

The second subsector includes other wooden furniture, wooden furniture for bedrooms, and wooden furniture for kitchens. Malawi would benefit from the availability of fibreboard, an essential input for furniture manufacturing. The world market for these three products combined exceeds \$46.5 billion. The SADC

<sup>25</sup> An oriented strand board or flakeboard is slightly different from a fibreboard, as its main use is for construction, given its capacity to support and carry loads in walls. While Malawi already exports fibreboards, flakeboards would be a new product for diversifying its current export basket.

market is significantly smaller, but is still nearly \$332 million. Expanding Malawi's export basket to include these products would be a natural way of augmenting value addition in the wood sector.

Realization of export potentials and diversification opportunities in the wood sector will depend on the country's ability to provide infrastructure. Electricity blackouts are still frequent and severely affect wood manufacturers by reducing their working days, while fixed costs remain the same.<sup>26</sup> Earlier strategies and studies, e.g. the Diagnostic Trade Integration Study (DTIS) update, identified transport costs as another key element for export competitiveness.

MGDS II estimates show that transport costs account for 50% of the total cost of shipping overseas (40% for imports). Reduced competition, along with cumbersome legislation in the region, adds further to the costs. The development of a competitive furniture sector will also require the acquisition of skills and capacities, for instance in design through education programmes.

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<sup>26</sup> Information collected during ITC stakeholder interviews.

## Pulses, other cereals: Diversify for new opportunities

Malawian exports of (dried and shelled) peas and other cereals (maize and sorghum) are valued at \$65 million. Three products make up 76.6% of exports of pulses and other cereals: pigeon peas (included in group 0713Xb) (28.7%), maize (25.6%) and *Pisum sativum* peas or common peas (22.3%).

Due to export bans, maize was not continuously exported over the period 2013-2015 and is therefore not identified as having export potential.<sup>27</sup> A variety of other beans, chickpeas and kidney beans, as well as maize seeds for sowing, are also exported. **Error! Reference source not found.** shows that Malawi is in general a small exporter of products from this sector, except for pigeon peas, where it accounts for 2.5% of the world market.

Thanks to its large demand, India is the most important market for this sector, absorbing 45% of current exports. Exports to India (\$29.2 million) equal those to Zimbabwe, Kenya, United Arab Emirates, Mozambique and South Africa combined, which represent the second to sixth largest destinations, respectively, for Malawian exports of pulses and other cereals. The United Kingdom, Singapore and Malaysia each absorbs between \$1.7 million and \$1.1 million and account for 2.6% to 1.7% of Malawian exports.

### Growth potential for current exports

As indicated in the top panel of **Error! Reference source not found.**, the main product in this sector in terms of export potential is common peas, dried and shelled, with a total export potential of \$27.8 million. Only 42.7% of this potential is currently tapped, indicating room for additional exports of \$15.9 million.

In chickpeas an even higher share of the \$9 million export potential remains largely unrealized (74%), which could translate into additional exports of \$6.6 million. The export potential of pigeon peas (\$13.1 million), by contrast, has been largely realized (88%). Smaller products – such as *Vigna mungo* beans, *Vigna* and *Phaseolus* beans, and kidney beans – have a promising growth potential ranging from \$2 million to \$1.6 million.<sup>28</sup>

India is the main driver of the unrealized export potential for common peas and chickpeas, accounting for more than half of that figure in both products. The remaining untapped potential for chickpeas is to be found in destinations that have not yet been targeted by Malawian exports and where entry could pose a major challenge (Spain, Portugal and Italy).

The Bengali market, which has also not been targeted, could prove more accessible in terms of market requirements.<sup>29</sup> For common peas, Zimbabwe, Kenya, Uganda and Lesotho offer opportunities for export growth within the region (\$4.6 million of combined untapped potential). Untapped opportunities for other products in the sector are to be found in countries not yet served (Italy, Japan, Spain, the United Kingdom, the United States and Portugal).

Realization of the untapped potential in the Indian market would increase Malawi's dependence on this buyer, which already absorbs nearly half of current exports. Interviewees expressed concern that Indian demand could be transient depending on the country's own harvest and production. Greater dependence would make Malawi vulnerable to price fluctuations in this buyer-driven market. Malawi could therefore aim to enter new markets for its exports of pulses. Backed by strong demand, China and Bangladesh both offer room for export growth in the sector.

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<sup>27</sup> See <http://www.ifpri.org/publication/are-malawis-maize-and-soya-trade-restrictions-causing-more-harm-good-summary-evidence>. The export potential and diversification methodology requires products to have been exported over the most recent three years to ensure continuity in supply.

<sup>28</sup> Maize seeds for sowing also show a high unrealized export potential (\$10 million). However, this opportunity might be significantly limited by the export ban applied by Malawi on maize for consumption. Opportunities for export growth in this product are concentrated in SADC countries, in particular Mozambique and the United Republic of Tanzania.

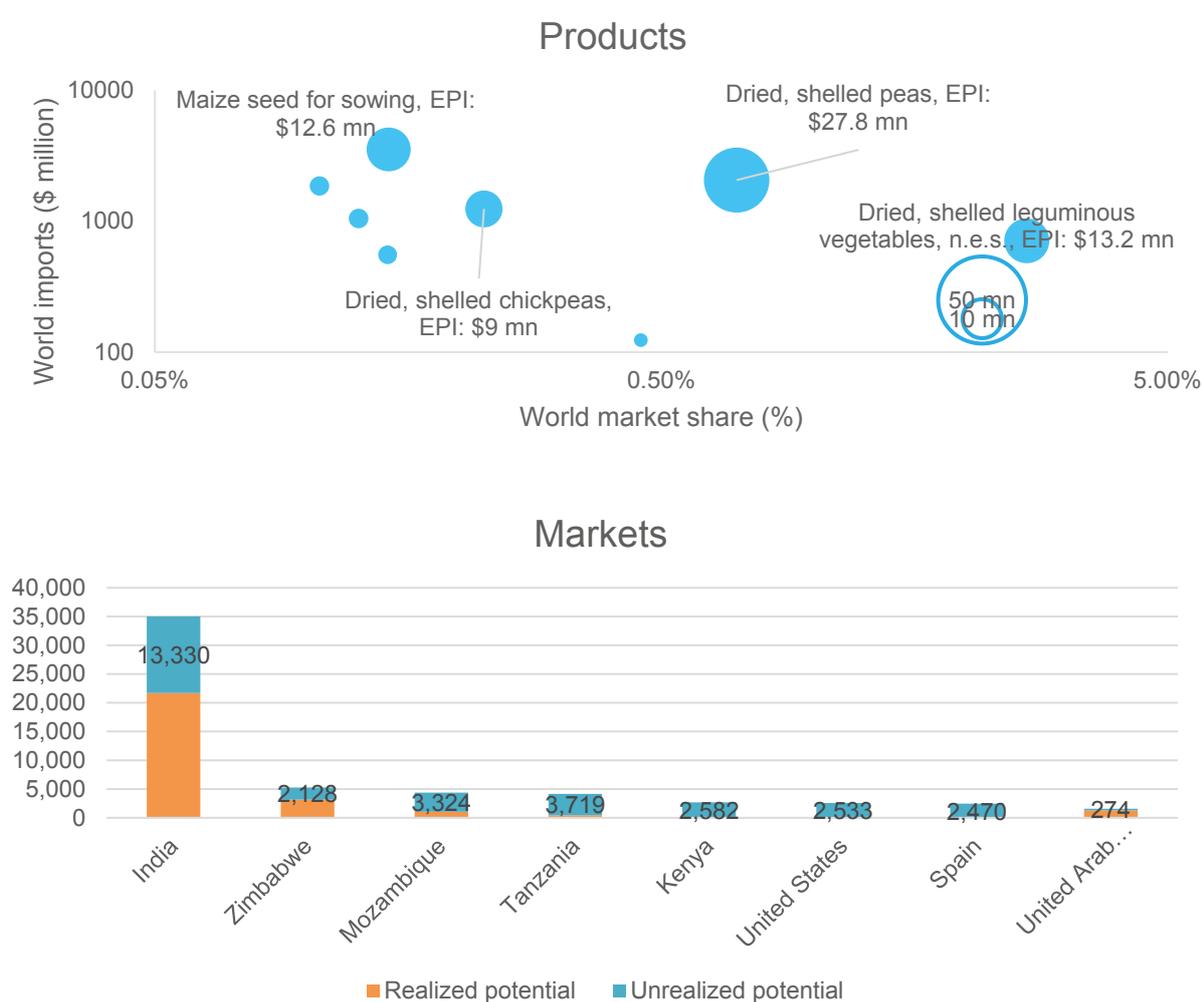
<sup>29</sup> UNCTAD (2013) states that developing-country markets are in general less regulated than developed-country markets. See [http://unctad.org/en/PublicationsLibrary/ditctab20121\\_en.pdf](http://unctad.org/en/PublicationsLibrary/ditctab20121_en.pdf).

## Growth opportunities through product diversification

Maize is identified as a potential opportunity for product diversification. Nonetheless, the realization of maize exports seems to depend more on national food policy than on market forces.<sup>30</sup> The pulses sector offers other possibilities, including for value addition. World demand for frozen common peas stands at \$490 million, mainly stemming from EU countries, the United States, Japan, and Canada, all of which grant duty-free access to Malawian exporters. As with frozen animal products, the development of this value chain would require the installation of facilities for cold chain production.

Another possibility consists of further processing peas and beans into flour, meal and powder. This market is smaller than that for frozen peas; over the period 2011-2015, world imports averaged \$62 million. With the exception of India and Thailand, very few developing countries have ventured into the production of peas flour, meal and powder for export, and hence the market remains dominated by developed economies.

Figure 15 Export potential for pulses' exports, by product and market



**Note:** Only products with total export potential above \$200,000 are considered in the top panel. Only markets within the top 80% of Malawi's export potential in pulses are considered in the bottom panel (minimum: \$10,000). Numbers next to bar plot refer to untapped export potential (in \$ thousand). **Source:** ITC calculations based on the export potential and diversification methodology.

<sup>30</sup> See, for instance, <http://www.ifpri.org/publication/are-malawis-maize-and-soya-trade-restrictions-causing-more-harm-good-summary-evidence>.

## Plastics: Specialize for economies of scale

Plastics exports from Malawi are almost exclusively shipped to regional partners. Demand is driven by construction needs and convenience use of plastic articles to replace steel and glass.

Some 49% of Malawi's total plastics exports of \$19.2 million go to the Zimbabwean market. Mozambique (30%) and Zambia (15%) are the second and third most important markets. Only a tiny fraction of exports is directed to South Africa (4%) and to neighbouring United Republic of Tanzania (1%).

The two main export products in this sector, accounting for almost half of regional exports, are household and toilet articles, and sacks and bags. Articles for conveyance or packaging of goods, plates and sheets, rigid PVC tubes, and tableware and kitchenware are other important products, with exports ranging from \$1.4 million to \$2.1 million. Boxes, bottles, stoppers and reservoirs complete the list of products exported by Malawi in this sector, for which they make up the remaining 18%.

### Growth potential for current exports

The distribution of export potentials closely follows that of actual exports: household and toilet articles (with an export potential of \$10 million), sacks and bags (\$8.7 million), rigid PVC tubes and pipes (\$4.6 million), articles for conveyance or packaging of goods (\$3.9 million), and plates and sheets (\$3.8 million) are the major products, representing 79% of the sector's total export potential.

In its main markets, Malawi has exhausted most of its export potential: in two of those markets – Zimbabwe and Zambia – additional exports of \$1.2 million and \$521,000, respectively, are feasible for the whole sector. In Mozambique, rigid PVC tubes and household articles still show little growth potential, of \$1.2 million and \$860,000 each. Untapped potential is higher in other SADC countries, including South Africa, but at present Malawi is barely active in these markets.

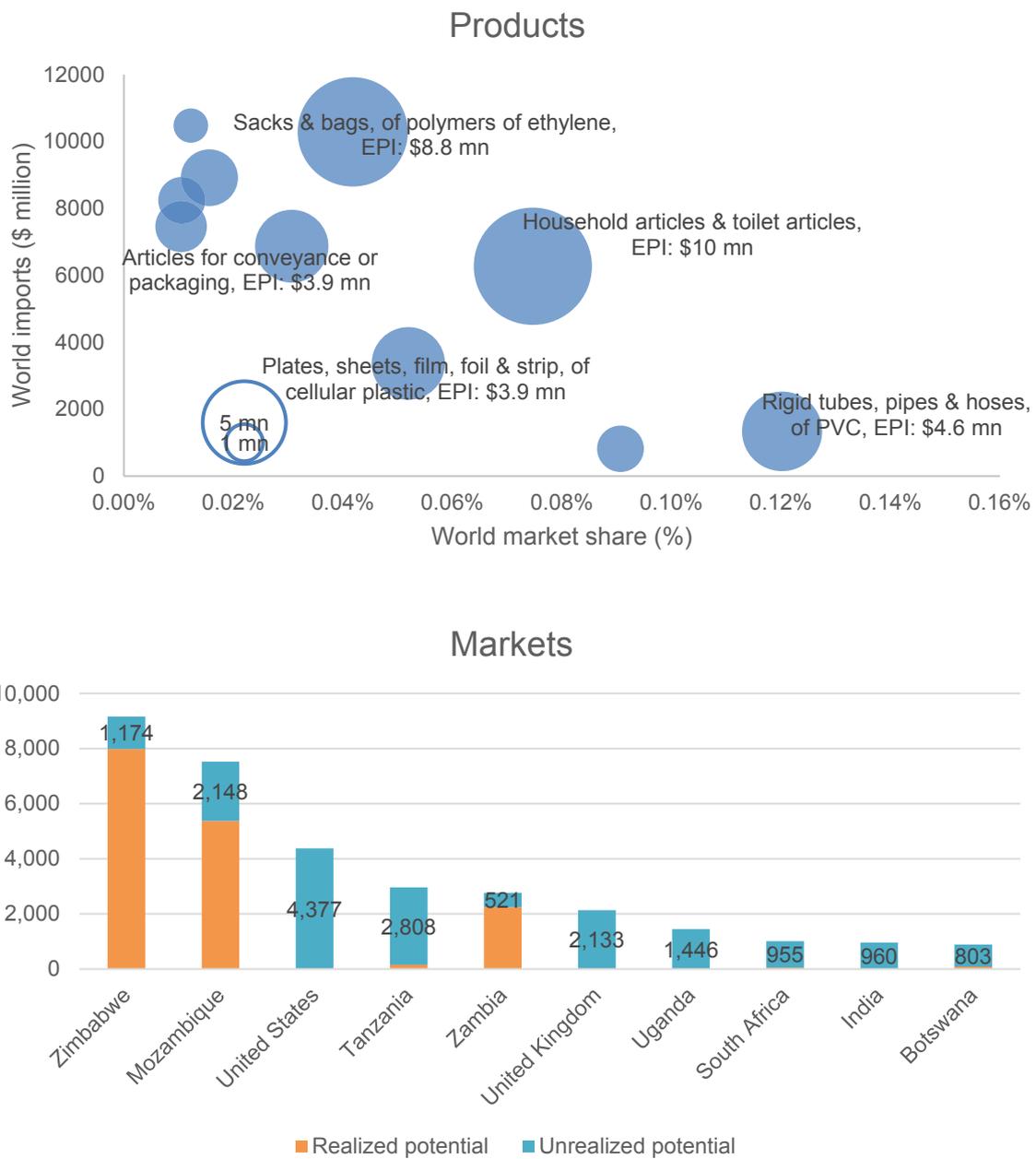
Tapping into the remaining total growth potential of \$4.7 million in the SADC region may therefore prove difficult. South Africa and other countries overseas (notably India and China) are larger producers of plastic products, and therefore competition even in regional markets is fierce. Malawi sources key inputs from abroad, which weighs on its cost competitiveness.<sup>31</sup> Furthermore, exporters reported during the interviews that the current economic situation in Zimbabwe has paralysed many export flows in the sector.

Specialization in the production of a narrow set of articles where economies of scale could be realized is a possible path for sustaining the production and exports of plastic products in Malawi. The country currently accounts for 10% to 20% of its regional market, and further specialization could be quite important for securing this market position in the future.

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<sup>31</sup> Primary forms of ethylene polymers (HS 3902) and propylene polymers (HS 3901) valued at for more than \$60 million were imported by Malawi in 2015, according to the ITC Trade Map. Imports mainly come from South Africa, and Sasol, a multinational company of South African origin, is a key supplier of these inputs in the region.

Figure 16 Export potential for plastic products, by product and market



**Note:** Only products with total export potential above \$200,000 are considered in the top panel. Only markets within the top 80% of Malawi's export potential in plastics are considered in the bottom panel (minimum: \$10,000). Numbers next to bar plot refer to untapped export potential (in \$ thousand).

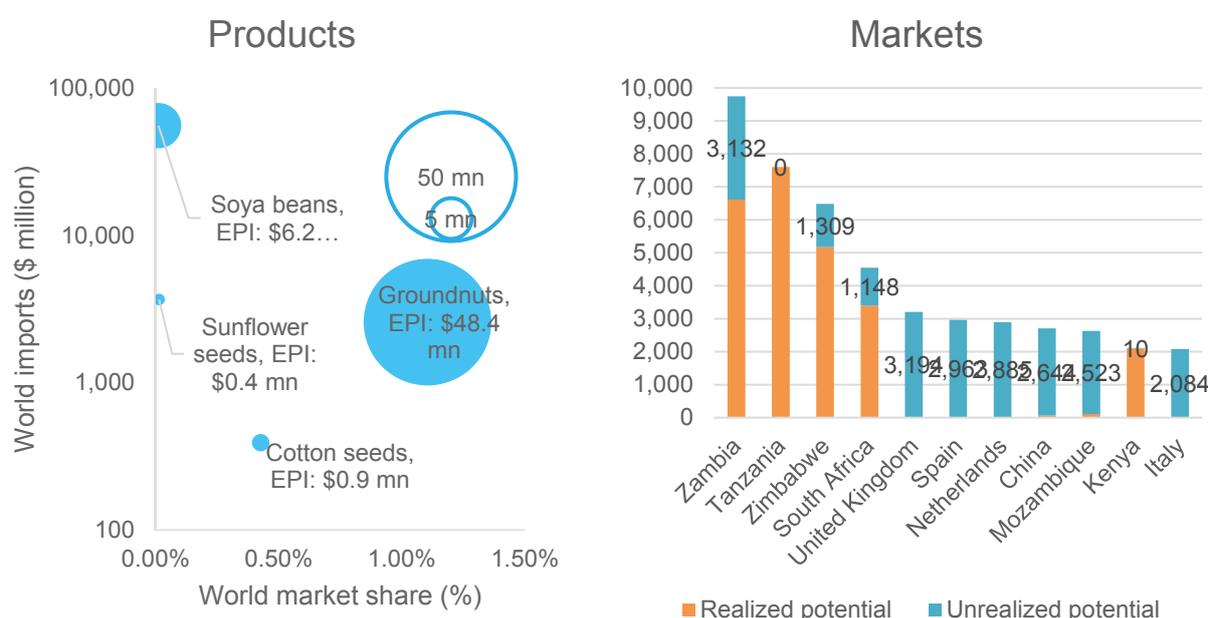
**Source:** ITC calculations based on the export potential and diversification methodology.

## Groundnuts, soybeans, oilseeds: Move towards oil processing

Malawian exports in this sector comprise groundnuts (\$28.4 million), soya beans (\$6.1 million), cotton seeds (\$1.7 million) and sunflower seeds (\$0.5 million). Groundnuts and soya beans are mainly shipped to regional partners: for groundnuts, United Republic of Tanzania, Kenya, Zambia, Zimbabwe and South Africa account for 97% of all exports.

Some 88% of soya beans go to Zimbabwe, Botswana, South Africa and Zambia. Only cotton seeds are also shipped overseas, and to South Africa: Between 2011 and 2015, exports to the United Arab Emirates represented an average annual value of \$682,000. In general, however, Malawi offers little market diversification in these products.

Figure 17 Export potential for oilseeds' exports, by product and market



**Note:** Only products with total export potential above \$200,000 are considered. Only markets within the top 80% of Malawi's export potential in oilseeds are considered (minimum: \$10,000). Numbers refer to untapped export potential (in \$ thousand).

**Source:** ITC calculations based on the export potential and diversification methodology.

### Growth potential for current exports

Malawi has four products with export potential in the oilseeds sector, valued at \$55.9 million. Groundnuts offer the largest such potential – \$48.4 million – of which 52%, or \$25.2 million, remains unrealized.

Unrealized export potential exists in traditional SADC markets (Zambia, Zimbabwe and South Africa) as well as in Mozambique, where Malawi currently accounts for less than 4% of all groundnut imports. Whether the country manages to unlock the \$2.2 million in the Mozambican market largely depends on its ability to compete with South Africa, currently Mozambique's biggest supplier.

Other new markets include developed countries (United Kingdom, Netherlands, Spain, Italy and Germany), where an important share of global demand for groundnuts lies. However, exports of groundnuts to developed countries face a major challenge: Malawi's groundnuts are not Aflatoxins-free. Due to the toxin's

association with cancer, developed markets have reduced the tolerance limits of this substance over time.<sup>32</sup> Currently, Malawi is not able to test or grade its production, which prevents exports to these countries. Interviewees said that improved post-harvest treatment, including for drying and storage, is necessary from the farm gate to the port to limit the impact of Aflatoxins.

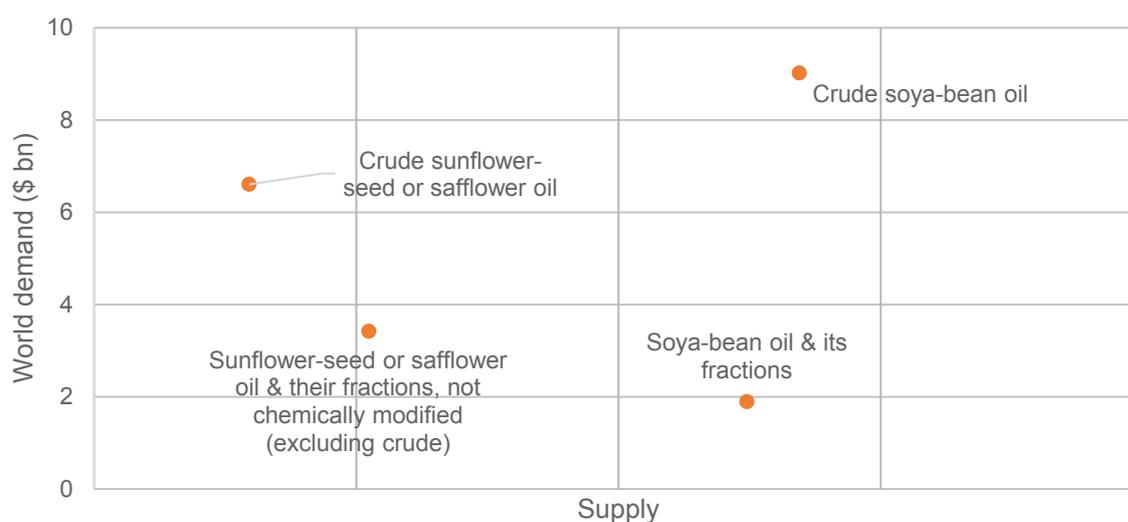
Against this background, now only the \$8 million of untapped export potential in SADC markets appears realistic. New varieties resistant to Aflatoxins are currently being introduced by other producing countries, and Malawi could implement similar programmes for seed improvement.<sup>33</sup>

The export potential of soya beans is currently fully realized in most regional markets. Only in Mozambique does a small potential of \$281,000 remain untapped. Significant growth potential exists in distant markets with high demand (China, Spain and other European markets). However, in light of the competition from major soya bean producers – such as the United States, Brazil and Argentina – and national policy considerations aiming to restrict soya exports,<sup>34</sup> it will be difficult for Malawi to penetrate those markets.

### Growth opportunities through product diversification

Occasional exports of sesame seeds were reported during 2011-2015, but export values have remained low (below \$1 million in active years). The world market is \$2.7 billion, and the SADC region, mainly South Africa, has consistently imported between \$3 million and \$5 million worth of sesame seeds. Given the sustained regional demand and Malawi's apparent capacity to produce and export this product, sesame seeds appear to be a promising option for extending the export basket.

Figure 18 Opportunities for upgrading in oilseeds and vegetable oils



**Note:** Opportunities for vertical diversification in oilseeds. Only products within the top 95% of Malawi's potential for vertical diversification in the sector are considered.

**Source:** ITC calculations based on the export potential and diversification methodology.

<sup>32</sup> For details, see [http://exporthelp.europa.eu/update/requirements/ehir\\_eu17\\_04v001/eu/auxi/eu\\_heafocan\\_annex\\_r1881\\_2006.pdf](http://exporthelp.europa.eu/update/requirements/ehir_eu17_04v001/eu/auxi/eu_heafocan_annex_r1881_2006.pdf).

<sup>33</sup> For an example, see <https://www.myjoyonline.com/news/2017/september-25th/new-disease-resistant-groundnuts-introduced-to-boost-production-export.php>.

<sup>34</sup> Note that, like maize, soya bean exports have also been restricted in the past. See <http://www.ifpri.org/publication/are-malawis-maize-and-soya-trade-restrictions-causing-more-harm-good-summary-evidence>.

Palm oil and its fractions, and crude groundnut oil are two options for value chain development in the sector. According to the stakeholders interviewed, few palm tree plantations are being developed by local entrepreneurs but they have not yet led to any exports. The United Republic of Tanzania and South Africa are the only palm oil exporters in the SADC region, yet represent less than 1% of world exports. Consequently, SADC markets are running a trade deficit, estimated at over \$250 million in 2015.

Given the large groundnut supply, crude groundnut oil is a natural option for value added product diversification. However, like the raw nut, the oil suffers from the presence of Aflatoxins. The world market for this product is valued at \$277 million, and major importers are located both in Asia and in developed countries. Limiting the incidence of Aflatoxins will be necessary to ensure that Malawi can seize this export opportunity.

A number of other vegetable oils were identified for vertical diversification based on products that Malawi already exports: soya bean oil and sunflower oil. The SADC region is a net importer of crude oils, with a trade imbalance exceeding \$100 million for sunflower oil and \$150 million for soya bean oil. Zimbabwe, Mozambique and South Africa are major drivers of regional imports; the latter two countries follow a strategy of importing crude sunflower oils for further processing and exporting the refined version.

Malawi thus needs to position itself either as a supplier of crude oil to regional processors or as their future competitor. Interviewees perceived a significant upscaling of local production as difficult, given the scarce availability of land for the production of raw materials. Selling excess supply to processing countries in the region may therefore be the best option, at least initially.

## Sugar: Expand production capacity

With exports valued at \$93.9 million, raw cane sugar is Malawi's biggest export crop after tobacco. More than 20% of all exports go to the United Kingdom (\$20.5 million). Other important markets are the United States and EU countries (mostly Spain, Italy, Portugal and Belgium), which grant Malawian sugar duty- and quota-free access and thus give the country an important tariff advantage over major competitors. Malawi is the 20<sup>th</sup> largest exporter of raw cane sugar worldwide, with a market share of 0.6%.

It should also be noted that Illovo Sugar Limited, a multinational with presence in Mozambique, South Africa, Swaziland, United Republic of Tanzania and Zambia, is the only active exporter of raw cane sugar in the country.<sup>35</sup> A new mill was installed by Salima Sugar Factory, but due to a limited supply of sugar cane, it works only at limited capacity. Private investors are planning to build a third facility.

### Growth potential for current exports

The sugar sector's total export potential is valued at \$192.1 million, of which 55.9% is yet to be realized. Exports to the main market, the United Kingdom, show little potential for growth (\$1.5 million), and consequently, Malawi may find it difficult to expand its market there.<sup>36</sup>

Better chances for export growth exist in other developed economies (Spain, Japan, Portugal) and in developing and emerging economies (Kenya, Mozambique, India, South Africa, China, Bangladesh, United Arab Emirates, United Republic of Tanzania, Indonesia, Malaysia) (see Figure 19). Aside from Kenya, none of the previous markets outside the SADC region has ever been targeted.<sup>37</sup> Market requirements, competition from other providers, and strategic decisions at the corporate level might be the reason for this.

Among the developed-country markets, Spain, Portugal, Canada, Poland and Finland still offer some possibilities for export growth, ranging from \$6.7 million to \$1.1 million. Among the regional markets, Malawi finds the greatest untapped potential in Kenya (\$14.1 million), Mozambique (\$12.7 million), South Africa (\$11.9 million) and the United Republic of Tanzania (\$3.5 million). The general ease of reaching these regional markets, and preferential market access conditions, add to that potential.

Realizing the potential will not, however, be easy for Malawian exporters. Sugar is a major commodity in the international market, and competition is intense. Market requirements and price are key elements in penetrating new markets. On the capacity side, the constraints lie rather in sugar cane production, as new mills and factories are short of inputs.<sup>38</sup> Sugar mills in Malawi rely mainly on their own production of sugar cane, and only a small fraction is purchased from farmers. These challenges were already identified by the National Export Strategy, in which sugar cane is one of the prioritized sectors. Nevertheless, further expansion programmes for sugar cane will likely be needed if the sector is to grow.

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<sup>35</sup> The group is a subsidiary of Associated British Foods plc (ABF).

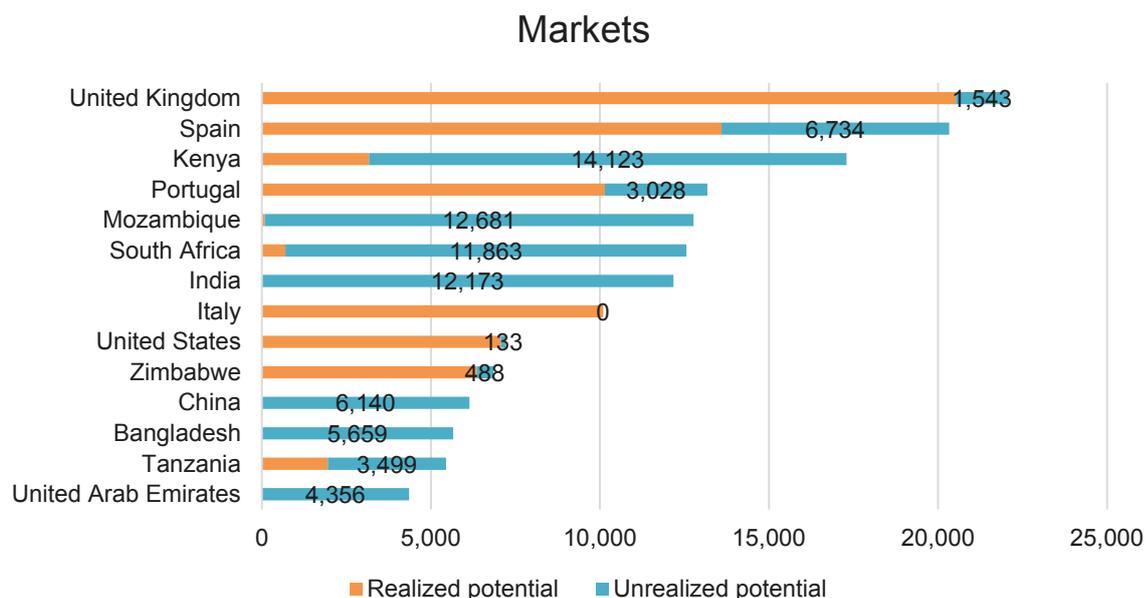
<sup>36</sup> Three other markets, although of lesser importance, are in a similar situation, having little or no potential for export growth: Italy, the United States and Zimbabwe.

<sup>37</sup> Among developed economies, the Japanese market is the only one with potential that has not yet been targeted.

<sup>38</sup> See the following news story from the Malawi News Agency:

<http://www.manaonline.gov.mw/index.php/national/agriculture/item/3842-salima-sugar-factory-ready>.

Figure 19 Export potential: markets for raw cane sugar



**Note:** Only the product raw cane sugar (HS 1701XX) is considered in this graph. Only markets within the top 80% of Malawi's export potential in raw cane sugar (HS 1701XX) are considered. Numbers refer to untapped export potential (\$ thousand).

**Source:** ITC calculations based on the export potential and diversification methodology.

### Growth opportunities through product diversification

Cane molasses resulting from the extraction or refining of sugar (HS 170310) and refined sugar (HS 170199) were identified as opportunities for vertical diversification within the sector. World demand for these products is valued at \$664.2 million and \$14.2 billion, respectively. However, in the current context it is difficult to foresee which actors other than sugar mills could realize this opportunity.

To promote all activities and products related to cane sugar, it is crucial that Malawi provides the necessary framework for more investors to enter the market with the aim of increasing competition and subsequently diversifying products. In this context, the country should also adopt policies enabling the production of sugar cane. Lack of access to finance for small farmers was mentioned by many of the stakeholders interviewed as an obstacle to increased production and productivity.

## Other fruits, vegetables and spices

The PDI identifies other opportunities for product diversification that do not involve sectors with existing export potential. These opportunities are identified using the 'product space' concept, which proposes products that are successfully exported by other countries having a similar export basket to Malawi. Figure 7 provides detailed information on the four sectors concerned.

### Fruits

Opportunities in this sector are mainly to be found among tropical fruits: bananas, pineapples, papayas and other edible fruits. Bananas rank high as a diversification opportunity for developed and regional developing country markets. Other tropical fruits (pineapple, papayas, etc.) also rank high for the SADC market. These products are already produced and consumed locally; hence the country has the appropriate climatic and land conditions to develop them as exports.

However, a reliable and efficient transport system is crucial for the export of tropical fruits. In addition, the international market is very competitive. The world market for bananas, for instance, is dominated by large multinationals that operate in such Latin American countries as Ecuador, Costa Rica, Colombia and Guatemala.

### Spices

Vanilla and cloves are diversification opportunities identified in the spices sector. The world market is valued at \$454 million for cloves and \$227 million for vanilla. Stakeholders interviewed had little knowledge of the (possibility of) spices production in Malawi.

#### *Cocoa beans*

Cocoa beans are another product group identified for export diversification. Malawi used to export them, but stopped doing so in 2011, while neighbouring countries continued production and exports. The region near Lake Malawi seems to offer the appropriate geological conditions. The world market for cocoa beans is huge (\$9.4 billion).

### Other vegetable products

Cassava is also identified as offering potential opportunities for product diversification. This is particularly true for the Lesotho and Namibia markets, but opportunities in those countries will heavily depend on associated transport costs and competition.

## CHAPTER 3 RECOMMENDATIONS

### *Regional markets offer the greatest share of opportunities for Malawian export growth and development*

There is considerable room for Malawi to increase its exports within the SADC region, the natural market for this landlocked country. Several regional markets are expected to grow rapidly in coming years, and this will translate into greater demand, including for Malawian exports. There are also some opportunities for increasing exports of traditional products and exploring new markets overseas. Table 2 below summarizes the most important such opportunities, as highlighted in the previous chapters. It also contains feedback on limitations and sector-specific needs mentioned in the ITC interviews with Malawian stakeholders.

### *Regional markets are at the heart of future export competitiveness*

Most concrete and short-term opportunities for export growth and diversification in the SADC region are also the result of Malawian exporters' general competitiveness vis-à-vis other regional suppliers, and in many cases vis-à-vis overseas suppliers as well. The upscaling and future performance of Malawi's trade is closely linked to its capacity to compete in the regional market. This market is also a natural testing ground for assessing Malawi's development of further productive capacities, since products that do not successfully penetrate neighbouring markets are less likely to make it out of the region. Thus, the continuous search for productivity gains in Malawi's regional exports are key to the country's development.

### *Export competitiveness in international markets needs to be sustained*

Some agricultural products, such as macadamia nuts, dried common peas, chickpeas, and raw cane sugar, offer room for export growth in international markets. Frozen poultry meat and frozen common peas could be promising options for product diversification with good chances of export success, including overseas. Even though most opportunities lie in products with lower levels of sophistication, and it is in the national interest to move up the ladder of value added, keeping markets open is also key to future market exploration. Malawi has shown to be a competitive and reliable supplier of these products, and the country should take advantage of this sustained performance in overseas markets for market diversification. Exporting these products can facilitate the entry of new products in the future.

### *For exports to succeed, complementary domestic policies are needed*

Seizing the identified export opportunities requires horizontal macroeconomic policies, as outlined, for instance, in MGDS II. Affordable access to finance, lower transport costs and an effective taxation system were cited by many interviewees as three crucial factors for improving the business environment.

High interest rates have adverse effects, leading to underinvestment and forcing loan recipients to seek immediate rentability instead of sustained productivity. Additionally, the lack of effective collateral for loan providers increases uncertainty, generating a vicious circle of higher interest rates and lower lending capacity. Recent legal reforms ensuring the use of land as collateral are important steps in addressing these constraints.

High transport costs within the region and to ports have been documented in other studies and in the ITC stakeholder interviews as a major constraint on Malawi's competitiveness. The recent completion of the railway to Mozambique will reduce costs and export times for some products, but not necessarily within the region. Investment in infrastructure and trade facilitation in regional markets is still pending.

The ongoing trade deficit creates pressure for revenue collection for the national Government. However, it is important to keep in mind the trade-off between revenue collection and incentives for entrepreneurs.

Climate change will pose new challenges to Malawian producers; issues such as access to water were frequently mentioned by interviewees. Farmers are unable to cope with these challenges on their own, and national irrigation programmes should be extended as much as possible.

### *Sectoral policies and private investment, crucial for tackling supply-side constraints*

Production capacities need to be enhanced to overcome sector-specific challenges. For instance, the groundnut sector requires facilities for post-harvest treatment as well as testing to tackle the Aflatoxins issue that currently prevents exporters from realizing existing potential in developed markets. The private sector also needs to improve its production techniques, since Aflatoxins affects the entire production chain and requires an integrated approach. Coordination among stakeholders is important as well, since Aflatoxins limitations have become stricter over the past 20 years.

Increased agricultural extension programmes could help boost production capacity. Pulses and cereals would benefit from overarching programmes to improve farm productivity, for instance through access to quality seeds and fertilizers, but also oriented to handling, transformation and merchandising. The rustic production methods used by smallholder farmers, along with the absence of information and programming of national production, tend to leave small farmers vulnerable to substantial price volatility at harvest time.

Even for successfully exported products, there is room for market differentiation and enhancing production processes. For tea and macadamia nuts, two products that are already successfully exported to many markets around the world, additional marketing efforts and targeted branding strategies could help to further exploit the significant export potential. These products would also benefit from other overarching programmes aimed at increasing productivity, such as irrigation schemes. Interviews with stakeholders also highlighted the need for strategic research to identify new target markets.

### *Attracting international investors to create new opportunities in the economy*

Other sectors will require considerable investments before export opportunities can materialize, in particular diversification opportunities. For animal products and pulses, the establishment of cold chain facilities would allow the development of frozen products. Given the increasing global demand for processed products, such measures could represent a strategic step towards adding value to Malawi's export basket. In order to attract investors, the country also needs to improve its business environment by ensuring macro stability for investment, sustained supply of domestic inputs with improved quality, and affordable business services.

The development of a furniture industry represents yet another possibility for value addition to products that are locally available in Malawi. Here again, a mix of legal and educational incentives may be conducive to ensuring that enough raw materials and skilled labour are in place.

Table 2 Summary of opportunities for export growth (EP) and diversification (DV)

Sector	Product	Target markets (by decreasing importance for each product)	Limitations and needs expressed by stakeholders
Tea	Tea in large packages (EP)	South Africa, Botswana, Kenya, United Arab Emirates	Rain dependence, or lack of irrigation, entails lower productivity Climate change poses a challenge for traditional products Marketing and branding efforts are needed Further promotion needed in low-income segments of regional markets to increase consumption
Nuts	Macadamia nuts (EP) Cashew nuts (DV)	Hong Kong SAR, Italy, Spain, United Kingdom, Belgium, Germany Netherlands, Germany, China, Japan and France	Irrigation is key to extending cultivated areas Increased marketing and promotion of distinctive quality aspects (i.e. the fact that nuts are hand-picked) is needed
Animal products	Chicken eggs (EP) Frozen cuts of chicken (DV) Fresh or chilled cuts of chicken (DV)	Mozambique Mozambique, Zimbabwe Mozambique	Reliable electricity supply is needed There is increased competition by local actors in the Mozambican market There are difficulties with burdensome regulations in destination markets
Wood and vegetable material	Wood sawn lengthwise (EP) Fibreboards (EP) Furniture for bedrooms (DV) Furniture for kitchen (DV) Other wooden furniture (DV)	South Africa, Mozambique Zimbabwe Botswana, Zambia, Zimbabwe, South Africa, Mozambique Zimbabwe, Zambia, Mozambique, Botswana Zambia, South Africa, Mozambique, United Republic of Tanzania, Botswana	Reliable electricity supply is needed High transport costs Imported inputs (e.g. glue, urea) increase production prices Insolvency in Zimbabwe, and overseas and domestic competition in regional markets, prevents expansion
Plastics	Household and toilet articles (EP) Sacks and bags (EP) Rigid PVC tubes (EP)	Mozambique, Botswana, United Republic of Tanzania, Zambia United Republic of Tanzania, Zimbabwe Mozambique, Zimbabwe, United Republic of Tanzania	Insolvency of Zimbabwean partners is a major obstacle Low domestic demand due to low level of incomes Increasing competition/protectionism in regional markets

Pulses and other cereals	Dried shelled common peas (EP)	Zimbabwe, India, Bangladesh, Kenya	Limited or no access to finance for smallholder farms, and production methods that prevent upscaling
	Chickpeas (EP)	India, Bangladesh	Certification for market preferences is cumbersome
	Maize (DV)	Lesotho, Zimbabwe, Mozambique	Dependence on imported fertilizer Need to improve and accelerate the distribution of fertilizers
	Dried shelled lentils (DV)	South Africa, Mauritius, Zimbabwe	Major fluctuations in year-to-year price discourage production upscaling Limited production scale prevents value addition
	Frozen common peas (DV)	EU countries, United States, Japan and Canada	Low-quality standardization across farms
Oilseeds and vegetable oils	Groundnuts (EP)	Zambia, Zimbabwe, South Africa, Mozambique	Aflatoxins is the main hurdle to overseas exports of groundnuts; testing facilities needed
	Soya beans (EP)	Mozambique	
	Sesamum seeds (DV)	South Africa	Domestic market/production is not well organized, and a significant share of trade is informal
	Palm oil (DV)	Entire region except for United Republic of Tanzania	
	Crude sunflower oil (DV)	Mozambique, Zimbabwe, South Africa	Limited production scale prevents value addition
	Crude soya bean oil (DV)	Mozambique, Zimbabwe, South Africa	Procedures for benefiting from preferential market access are cumbersome
	Refined sunflower oil (DV)	Namibia, Botswana, Lesotho, Zimbabwe	Low-quality standardization across farms
Refined soya bean oil (DV)	Zimbabwe, Angola, Madagascar, Mauritius, Mozambique	Major fluctuations in year-to-year price discourage production upscaling	
Sugar	Raw cane sugar (EP)	United States, Spain, Portugal, Canada	Limited competition for sugar cane processors
	Cane molasses (DV)	South Africa	Low incentives for large investments due to high interest rates
	Refined sugar (DV)	Mozambique, United Republic of Tanzania	Low production by small farmers due to lack of irrigation Electricity supply is key to further processing of raw cane sugar

## APPENDICES

### Appendix I List of countries granting unilateral tariff preferences to Malawi<sup>39</sup>

Australia	Finland	Latvia	Slovakia
Austria	France	Liechtenstein	Slovenia
Belarus	Germany	Lithuania	Spain
Belgium	Greece	Luxembourg	Sweden
Bulgaria	Hungary	Malta	Switzerland
Canada	Iceland	Morocco	Taipei, Chinese
Chile	India	Netherlands	Tajikistan
China	Ireland	New Zealand	Thailand
Croatia	Italy	Norway	Turkey
Cyprus	Japan	Poland	United Kingdom
Czech Republic	Kazakhstan	Portugal	United States of America
Denmark	Korea, Republic of	Romania	
Estonia	Kyrgyzstan	Russian Federation	

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<sup>39</sup> Information obtained from [www.macmap.org](http://www.macmap.org). Some of the countries in the list provided preferential access through more than just a single scheme. For instance, Australia applies a general Generalized System of Preferences (GSP) scheme and a more favourable scheme for least developed countries.

## Appendix II Herfindahl-Hirschman index of export concentration

The concentration level of Malawi's export basket has been measured with the Herfindahl-Hirschman index (HHI) using five-year averages (2011-2015) of exports, as reported by Malawi and its trade partners, which are considered to be reliable reporters of their trade statistics according to ITC's reliability assessment.<sup>40</sup> The HHI takes into account a country's total exports to the world ( $v_i$ ) and the export value of each product ( $v_{ik}$ ) or to each market ( $v_{ij}$ ). It is represented by:

$$HHI = \sum_i \left( \frac{v_{i(k)(j)}}{v_i} \right)^2$$

The HHI takes a value between zero and one, with one representing a country that exports a single product or to a single market. A lower HHI indicates more diversified exports. The inverse of the HHI is interpreted as the normalized or equivalent number of products or markets. It is the number of products or markets when all elements of the distribution have the same value.

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<sup>40</sup> For details, see Decreux and Spies (2016).

## Appendix III Export potential and diversification assessment methodology

The ranking of products and markets with export potential and for export diversification relies on ITC's export potential and diversification assessment methodology. This methodology has been developed to identify and quantify export opportunities.

### Data

The source of all the trade data used in export potential assessments is the ITC [Trade Map](#).<sup>41</sup> Various measures ensure that unreliable data reports do not distort results. First, the indicators are based on five-year averages (2011-2015). All products must be exported in the three most recent years and imported in all five years to ensure that only continuously supplied and demanded products are suggested as potential areas for export promotion activities. Second, a mix of the direct (as reported by the country itself) and the mirror (as reported by the country's trade partners) flow is used to estimate "true" export and import values. Third, a thorough reliability check identifies and disposes of unreliable reporters whose reported trade flows are not used in the analyses. In cases where a country's reports systematically differ from those of its trade partners, only reliable mirror statistics are used.

Tariff data are taken from the ITC [Market Access Map](#). All other data come from external data sources. For an overview, see Decreux and Spies (2016).

### Export potential indicator: Growing your current exports

The export potential indicator (EPI) identifies products in which the exporting country has already proven to be internationally competitive and which have good prospects of export success in a given target market. It is based on an assessment of supply, demand and market access conditions. While all the calculations are done at the finest level – i.e. by exporting country, product and target market – results could also be aggregated to determine the export potentials of given sectors or regions.

Export potentials are calculated on the basis of a combination of supply, demand and ease-of-trade factors:

$$EP_{ijk} = Supply_{ik}^{EP} \times Ease_{ij} \times Demand_{ijk}$$

The supply side in the EPI is based on the projected market share, thus the share of country  $i$ 's exports of product  $k$  in total exports of product  $k$ , multiplied by the exporter's expected GDP growth rate (relative to expected average GDP growth of other suppliers of the product) to capture the relative increase in overall supply capacity. This indicator is corrected for possible re-exports whenever imports of the product exceed exports. It is also corrected for market access: the supply indicator is meant to capture projected market share in the absence of re-exports and tariffs (the impact of tariffs on exports to a particular market is taken into account in the demand component).

$$Supply_{ik}^{EP} = Projected\ market\ share_{ik} \times TB_{ik} \times GTA_{ik}$$

The demand side is based on projected imports, thus market  $j$ 's demand for product  $k$ , multiplied by a growth factor that accounts for sector differences in the effect of the market's expected GDP growth on market demand (income elasticity of imports). The indicator also considers the tariff advantage in the target market and the bilateral distance as compared to the average distance over which the target market usually imports the product.

$$Demand_{ijk} = Projected\ M_{jk} \times MTA_{ijk} \times Distance\ factor_{ijk}$$

<sup>41</sup> Annual data in the ITC Trade Map come from the United Nations Comtrade database.

Ease-of-trade is based on actual trade between exporter  $i$  and market  $j$  for products with potential relative to their hypothetical trade if exporter  $i$  had the same share in market  $j$  as it has in world markets. If  $Ease > 1$ , country  $i$  finds it easier to trade with market  $j$  than with world markets on average, for example because the two countries are located in proximity to one another, because they share the same language or culture or because they have previously established commercial links. This will augment country  $i$ 's potential to trade any type of product with market  $j$ . By contrast, if  $Ease < 1$ , country  $i$  finds it relatively more difficult to trade with market  $j$ , lowering its potential to trade with that market irrespective of the product under analysis.

$$Ease_{ij} = \frac{X_{ij}}{\sum_k Supply_{ik}^{EP,Static} \times Demand_{ijk}^{Static}}$$

Combining  $Supply_{ik}^{EP}$ ,  $Demand_{ijk}$ , and  $Ease_{ij}$  gives the total export potential in US dollar terms. If Malawi's total export potential (to the world) for a given product is below \$200,000, and if the product is not at least partly covered by the 95% cumulative export potential of products ranked in descending order, it is considered as too marginal to be indicated as an opportunity with sufficient potential for trade support activities.

The calculated export potential can be compared to actual exports in order to identify the scope for export growth. For a detailed and technical description of the methodology, see Decreux and Spies (2016).

#### Final export potential indicators

- **Potential export value:** The potential value at which a country can export its products to a given target market in view of its current supply capacities, the target market's demand and market access conditions. An increase in production capacities, for example as a result of foreign direct investment (FDI), will increase this value.
- **Unrealized potential:** The gap between actual exports and current potential exports. Reasons for unrealized potentials include lack of information about or difficulties in meeting consumer preferences in the target market, lack of information about or difficulties in meeting market regulations, lack of business contacts or of knowledge about distribution channels, and mismatch of supplied and demanded varieties.

#### Product diversification indicator: Diversifying into new products

The product diversification indicator (PDI) is particularly useful for countries with a limited range of exported products. Since these are often agricultural commodities or natural resources subject to price shocks, the identification of additional export products with good prospects of export success can help broaden the export base and be instrumental in securing sustainable export revenues.

Supply conditions are approximated through a measure of product relatedness: the "product space" concept<sup>42</sup> enables the identification of products that can "feasibly" be produced for export based on the intuitive idea that products which are often jointly exported by countries require similar production capabilities and resource endowments. By using information on export connections from all countries worldwide, an outcome-based measure of the country's ability to diversify into new products can be calculated. These new products are given a "proximity" score. Filters are then applied to account for certain geographic conditions (e.g. availability of sea access or climatic zones) of the country that might be incompatible with producing the items proposed for diversification.

Filtered proximity scores (the "ease" of reaching certain products) are combined with the same demand-side (size, growth and accessibility) and ease-of-trade indicators that are used in the EPI to create a unique ranking of diversification opportunities with good chances of export success in a given target market.

<sup>42</sup> Hidalgo, C., B. Klinger, A.L. Barabasi and R. Hausmann (2007). The product space conditions the development of nations. *Science* 317, 482–487.

## Value chain indicator: Embedding value added into national exports

Establishing solid productive capacities that build on current capabilities in developing countries is a recurrent objective for their own Governments. The possibility of benefiting from productivity spillovers across several activities in an economy motivates to complement the analysis of diversification opportunities based on the PDI. A new indicator, the value chain indicator (VCI), is introduced to identify diversification opportunities that promote the transformation of domestically produced inputs, henceforth referred to as vertical export diversification. Like the EPI and the PDI, it relies on detailed export, import and market access statistics to indicate products with good chances of export success for the country. Successful vertical export diversification strongly depends on the country's ability to transform locally available inputs. To capture the linkages between different sectors in a production process, the analysis relies on Input-Output (I-O) matrices.

To integrate the production logic into the analysis, the VCI starts by a simple categorization of goods along the production chain. Inputs can be raw or semi-processed, while outputs should be semi-processed or processed goods. This categorization follows the WTO classification of products by processing stage at the 6-digit level of the Harmonized System (HS) classification. Inputs and outputs are connected through technical coefficients, which measure the amount of inputs needed to produce one monetary unit of output. Technical coefficients are calculated using I-O matrices.

The most detailed I-O matrix available is the one describing the United States' economy with 389 sectors that include both goods and services.<sup>43</sup> The sectors in this I-O matrix are based on the 2007 North American Industry Classification System (NAICS). The most recent matrix containing data for the year 2007 was published in 2014. Assuming that the United States represents the technical benchmark for efficient production methods and that these processes have not changed significantly over the past decade, the United States' matrix can be applied to illustrate I-O linkages of other countries.

### Components of the value chain indicator

Like the EPI and the PDI, the VCI combines three factors capturing supply, demand and market access conditions, and bilateral ease of trade:

$$VC_{ijk} = Supply_{ik}^{VC} \times Ease_{ij} \times Demand_{ijk}$$

Measures of ease of trade and demand are the same as in the EPI and the PDI.

At the core of the VCI's supply measure are conditional probabilities of exporting product  $l$  with comparative advantage if product  $k$  is already exported with comparative advantage, based on trade data from all countries worldwide.<sup>44</sup> Hausmann and Hidalgo's product space measures the average proximity of a country to a new potential export product (the "density") from a matrix of conditional probabilities between all products. A similar measure is used in the PDI. However, the VCI departs from this approach in two ways. First, it establishes conditional probabilities only among products that are in an I-O relationship as indicated by the I-O matrix. To enforce a value chain approach, inputs have to be raw or semi-processed, while outputs should be semi- or fully processed. Second, it uses the technical coefficient as a weight for the conditional probabilities. Technical coefficients are defined as

$$TC_{ks} = \frac{z_{ks}}{y_s}$$

where  $z_{ks}$  is the value of good or service  $k$  purchased as an intermediate input by sector  $s$ , and  $y_s$  is the value of production by sector  $s$ . For simplicity, products are assumed to coincide with sectors.

Applying these two changes, the density measure becomes

<sup>43</sup> In general, I-O accounts are a representation of interactions between sectors, including Use, Make, Direct Requirements and Total Requirements tables. The value chain analysis relies on technical coefficients calculated from the Use table, which specifies the inputs each industry requires for its production. For further information, see [https://www.bea.gov/papers/pdf/IOfmanual\\_092906.pdf](https://www.bea.gov/papers/pdf/IOfmanual_092906.pdf).

<sup>44</sup> The measure of comparative advantage uses Balassa's concept of Revealed Comparative Advantage (RCA) corrected for re-exports and global tariff advantages. For details, see Decreux and Spies (2016). To be considered, a product must have been exported every year for the past three years.

$$Density_{il}^{VC} = \frac{\sum_k (CA'_{ik} TC_{kl} \varphi_{kl})}{\sum_k (TC_{kl} \varphi_{kl})}$$

where  $\varphi_{kl}$  is the conditional probability of exporting transformed product  $l$  with a comparative advantage if the country already has one in untransformed product  $k$ . Current capabilities are reflected by  $CA$ , a corrected version of Balassa's Revealed Comparative Advantage.

A high density means that the country has comparative advantages in products surrounding product  $l$  that also serve as inputs into its production. This implies that diversification into product  $l$  seems possible by transforming these inputs. By contrast, a low density means that the product is far from the country's current export structure or that essential inputs are not domestically available. Hence, product  $l$  is an unlikely candidate for value chain development. Note that density is zero if the country does not have a comparative advantage in any input to product  $l$ .

### Computing technical coefficients at the product level

The United States I-O matrix represents the input requirements of 389 sectors, of which 225 correspond to goods and 164 to services. The ITC export potential and diversification methodology, however, distinguishes 4,064 product groups based on the HS 6-digit level. In order to obtain technical coefficients at the product group level, the I-O matrix has to be expanded. This part of the analysis excludes the 164 services sectors, given the lack of detailed data on services.

The first step of the expansion, from 225 to 4,064 columns, is to attribute to all output subsectors their respective sector's technical coefficient.<sup>45</sup> The second step of the expansion, from 225 to 4,064 rows, repeats this procedure for the input subsectors, resulting in a square matrix of size 4,064 x 4,064. This expansion would initially lead to a matrix containing 16,516,096 cells. However, not all of these pairings are interesting for value chain development. Excluding raw products from the list of output subsectors, and fully processed products from the list of input subsectors, leads to a matrix of 6,064,694 cells (1,658 input subsectors x 3,658 output subsectors).

Table 3 illustrates how this expansion works with four hypothetical sectors, two input sectors (I1 and I2) and two output sectors (O1 and O2), and their corresponding subsectors. Note that the technical coefficients at the subsector level are incorrect in Table 3, as their re-aggregation would not lead to the original technical coefficient of the sector.

Table 3 Expansion of IO table from NAICS goods sectors to HS-based product groups

	O1	O2	O1			O2		O1			O2				
			O11	O12	O13	O21	O22	O11	O12	O13	O21	O22			
I1	$c_{s11}$	$c_{s12}$	I1	$c_{s11}$	$c_{s11}$	$c_{s11}$	$c_{s12}$	$c_{s12}$	I1	I11	$c_{s11}$	$c_{s11}$	$c_{s11}$	$c_{s12}$	$c_{s12}$
										I12	$c_{s11}$	$c_{s11}$	$c_{s11}$	$c_{s12}$	$c_{s12}$
I2	$c_{s21}$	$c_{s22}$	I2	$c_{s21}$	$c_{s21}$	$c_{s21}$	$c_{s22}$	$c_{s22}$	I2	I21	$c_{s21}$	$c_{s21}$	$c_{s21}$	$c_{s22}$	$c_{s22}$
										I22	$c_{s21}$	$c_{s21}$	$c_{s21}$	$c_{s22}$	$c_{s22}$
										I23	$c_{s21}$	$c_{s21}$	$c_{s21}$	$c_{s22}$	$c_{s22}$

**Note:** Input sector I1 corresponds to subsectors I11 and I12, input sector I2 corresponds to subsectors I21, I22 and I23. For output sectors, O1 corresponds to subsectors O11, O12 and O13, while O2 corresponds to subsectors O21 and O22.

**Source:** ITC (2017).

The third step of the expansion therefore distributes the input sector's technical coefficient among the input subsectors included in it, while ensuring that the sum of all technical coefficients of an output subsector

<sup>45</sup> The following discussion refers to output products as output subsectors and to input products as input subsectors.

equals the value of the technical coefficient at the output sector level ( $\sum_{k \in S} c_k = c_s$ ). The simplest way to do this is to distribute the technical coefficient equally among input subsectors,

$$c_k = \frac{c_s}{n_s}$$

where  $c_k$  ( $c_s$ ) is the technical coefficient associated with input subsector (output sector)  $k$  ( $s$ ), and  $n_s$  is the number of input subsectors in the input sector. An example of the result is presented in Table 4. Since the technical coefficient between the "Cheese manufacturing" output sector and the "Dairy cattle and milk production" input sector is 0.45, each of the five input subsectors in the input sector is attributed a technical coefficient of 0.09 for each of the output subsectors in the "Cheese manufacturing" output sector.

Table 4 Equal split of technical coefficient among corresponding subsectors

	Output sector 1	...	Cheese manufacturing					...	Output sector 225
			Fresh cheese	Grated or powdered cheese	Processed cheese	Blue-veined cheese	Cheese, n.e.s		
Input sector 1									
...									
Dairy cattle and milk production	Low-fat milk/cream		0.09	0.09	0.09	0.09	0.09		
	Medium-fat milk/cream		0.09	0.09	0.09	0.09	0.09		
	High-fat milk		0.09	0.09	0.09	0.09	0.09		
	Natural milk constituents		0.09	0.09	0.09	0.09	0.09		
	Dairy spreads		0.09	0.09	0.09	0.09	0.09		
...									
Input sector 225									

Source: ITC calculation based on data from the United States' I-O matrix (2007).

The simple division of technical coefficients among the number of subsectors is applied in 96.5% of all cases. For 3.5% of the combinations, corresponding to 210,236 I-O pairs, a direct association of input and output subsectors leads to a significant improvement of results. Several word-matching techniques to link product descriptions at the input and output level are implemented in order to achieve greater precision in the technical coefficients.

Product descriptions are analysed word by word, taking into account the possibility of plurals. Only relevant matches are considered, while generic words are excluded. These key words are used to produce a list of input and output subsectors with partially matching descriptions. Matched pairings are manually checked to eliminate coincidences. Output subsectors without any matching input subsectors are also manually checked to ensure that relevant input subsectors have not been ignored.<sup>46</sup> Depending on the result of the word matching, technical coefficient are then modified.

Table 5 and Table 6 present an example of a possible outcome of this exercise: the NAICS output sector "Animal (except poultry) slaughtering, rendering, and processing" includes such output subsectors as frozen bovine carcasses and half-carcasses (HS 020210), frozen carcasses and half-carcasses of swine (HS 020321) and frozen lamb carcasses and half-carcasses (HS 020430). At the input subsector level, bovine

<sup>46</sup> The method has been implemented for:

- The agri-food sector (HS chapters 01-23)
- Textiles (chapters 50-58 and 60-63, and some products in chapters 14, 43, 59, 65, 88 and 94)
- Minerals and metals (chapters 25, 27, 68, 71, 72 and 74-83, and some products in chapters 38 and 73)
- Wood, paper, rubber and plastics (chapters 39, 40 and 44-49, and some products in chapters 06, 14, 30, 38, 94, 96).

animals are part of the NAICS input sector “Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming”, while sheep and swine are part of the NAICS “Animal production, except cattle and poultry and eggs” input sector.

The technical coefficient of “Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming” in the production of “Animal (except poultry) slaughtering, rendering, and processing” is 0.37. The technical coefficient of “Animal production, except cattle and poultry and eggs” in the production of “Animal (except poultry) slaughtering, rendering, and processing” is 0.14. An equal split of technical coefficients among the corresponding subsectors in Table 4 suggests that, for the production of frozen carcasses of swine, a larger requirement of bovine animals than of swine is needed, along with an equal requirement of swine and of other live animals.

Table 5 Modification of the technical coefficient following the implementation of word-matching techniques: Step 1

		Output sector 1	...	Animal (except poultry) slaughtering, rendering, & processing		...	Output sector 225
				Frozen bovine (half-)carcasses	Frozen swine (half-)carcasses		
Input sector 1							
...							
Beef cattle ranching & farming, including feedlots & dual-purpose ranching & farming	Bovine animals			0.37	0.37		
Animal production, except cattle & poultry & eggs	Swine			0.07	0.07		
	Other live animals			0.07	0.07		
...							
Input sector 225							

Source: ITC calculation based on data from the United States' I-O matrix (2007).

The word matching can significantly improve the precision of the technical coefficient, both for output sectors that are linked to a single input sector (scenario as in Table 4) and for output sectors that are linked to multiple input sectors (scenario as in Table 5).<sup>47</sup> In the case of several input sectors, technical coefficients are added. The total technical coefficient is then distributed among matched input subsectors,<sup>48</sup> while other corresponding input subsectors are assigned a technical coefficient of zero. Going back to the example in Table 5: the key word “swine” would associate swine with frozen swine carcasses, while the key word “bovine” would associate bovine animals with frozen bovine carcasses. Assuming that there are no further matches, Table 5 would thus be transformed as illustrated in Table 6.

<sup>47</sup> Input sectors are associated with output sectors if at least one key word in the subsector descriptions matches.

<sup>48</sup> If matching input subsectors belong to different input sectors, the technical coefficient is first distributed among input subsectors within each input sector, and then proportionately expanded to the total technical coefficient if one or more input sectors do not contain any matched input subsectors.

Table 6 Modification of the technical coefficient following the implementation of word-matching techniques: Step 2

		Output sector 1	...	Animal (except poultry) slaughtering, rendering, & processing		...	Output sector 225
				Frozen bovine (half-)carcasses	Frozen swine (half-)carcasses		
Input sector 1							
...							
Beef cattle ranching & farming, including feedlots & dual-purpose ranching & farming	Bovine animals			0.51	0		
Animal production, except cattle & poultry & eggs	Swine			0	0.51		
	Other live animals			0	0		
...							
Input sector 225							

Source: ITC calculation based on data from the United States' I-O matrix (2007).

Adding the technical coefficients of the “Beef cattle ranching & farming, including feedlots & dual-purpose ranching & farming” and the “Animal production, except cattle & poultry & eggs” input sectors results in a technical coefficient of 0.51 for bovine and swine meat production, respectively. Non-relevant input subsectors, such as bovine animals for frozen swine (half-) carcasses, are assigned a technical coefficient of zero.<sup>49</sup>

Additional input sectors where no matches have been found in the product descriptions keep their original technical coefficients as described in Table 4.

<sup>49</sup> Note that if the word matching had been done within every input sector instead of across all the linked input sectors, the production of frozen swine would be seen as requiring the input of swine animals with a technical coefficient of 0.14, while the production of frozen bovine would require the input of bovine animals with a technical coefficient of 0.37.

## Appendix IV List of interviewed agencies or institutions

Malawi Investment and Trade Centre

Ministry of Industry and Trade

Export Development Fund

Oil Seed Products Technical Working Group

Ministry of Agriculture and Food Security, Department of Agricultural Extension Services

Ministry of Economic Planning and Development, Department of Economic Planning and Development

National Smallholder Farmers' Association of Malawi (NASFAM)

Malawi Confederation of Chambers of Commerce and Industry

Tea Association of Malawi

Plastics Association of Malawi

Press Corporation

Raiply

Expert from the sugar sector

Seblo Farming Company Limited

Manufacturers Association

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