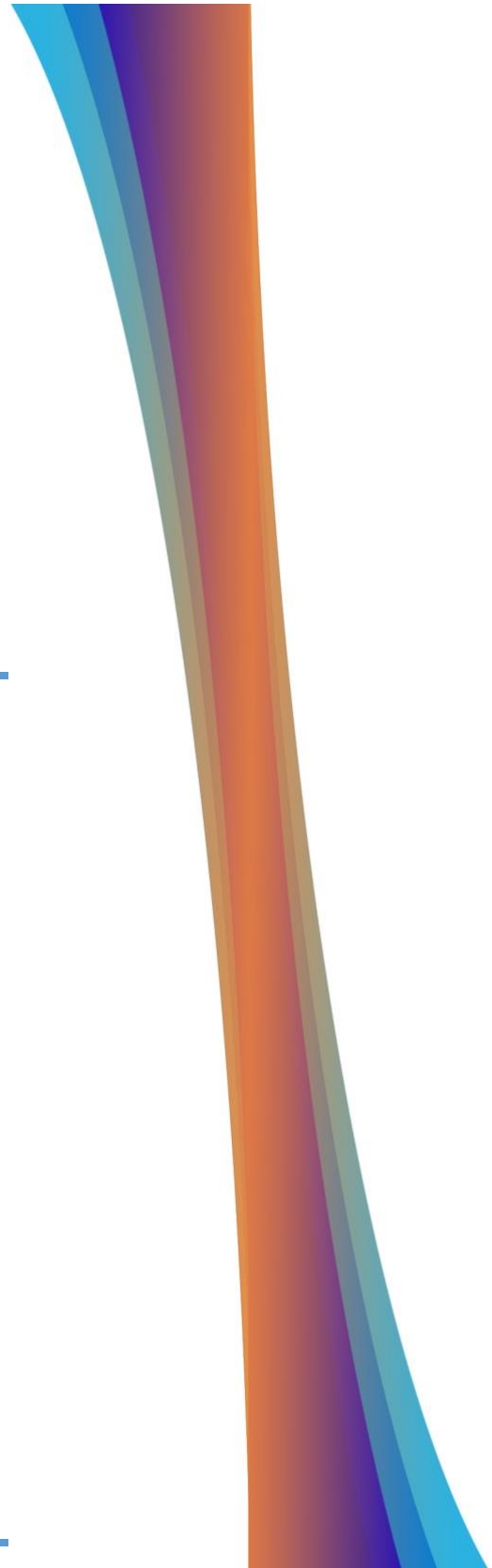

Research Report

Assessing Export Opportunities for Canada in Africa



05 December 2019



Executive Summary

Africa is becoming increasingly prominent in trade policy and promotion initiatives. Steady growth over the past two decades has resulted in the economy of Sub-Saharan Africa (SSA) approaching the US\$ 4.8 trillion dollar mark in terms of purchasing power parity in 2020 and the US\$ 2 trillion dollar mark at market exchange rates (IMF, 2019). Adding in the Maghreb economies of North Africa raises these figures to US\$ 7.5 trillion and US\$ 2.6 trillion respectively. Several African economies have been dubbed “Lion Economies” in acknowledgement of their above-average economic performance. And, at a time of growing barriers to international trade and investment, Africa is moving to remove internal barriers through the African Continental Free Trade Agreement (AfCFTA) and infrastructure projects that improve internal connectivity by road, rail, and telecommunications, including rapid growth of e-commerce.

The major economies are all targeting Africa: the European Union with its Economic Partnership Agreements (which it needs for WTO compliance but also in the hope of accelerating economic development to stem the flow of refugees); China with its Belt and Road (including the Digital Silk Road) Initiative; the United States with its Prosper Africa project, which is a reaction to the expansion of China’s relationship with Africa; and most recently Russia, which organized a summit with African leaders in Sochi.

The heightened interest in Africa reflects both strategic and commercial factors. The commercial interests are substantial: the absolute value of growth of exports by the major economies to Africa between 2001 and 2018 amounted to US\$ 250 billion. This is a contestable market served by exporters around the world. This market is large, and it is growing, even in the absence of major FTAs liberalizing African markets to third parties.

During this period, Canada more than tripled its exports to Africa from US\$ 1 billion in 2001 to US\$ 3.3 billion in 2018. However, even so, Canada captured less than 1% of the additional global exports to Africa that were realized in this period. Canada thus has already missed out on significant export growth opportunities and further risks being shunted aside from an increasingly important global market, absent a strategy to sustain and expand its current small foothold.

Canada’s export prospects in Africa can be put in perspective by applying a trade “gravity” model analysis, which takes into account Canada’s export pattern globally based on the size of partner economies, their distance from Canada and the relative ease of doing business in those markets due to factors such as commonalities of language, legal system, historical relationships etc. On this basis, Canada underperforms in exporting to Africa: Canadian exports are close to 30% lower simply because the destination economy is in Africa; this “Africa discount” is even larger for manufactured goods exports: for manufactures, Canada’s exports are over 45% smaller to African destinations on average compared to other overseas destinations.

Where Canada does perform well in Africa is in niche markets in which Canada is a world export leader. For example, agri-food exports to a number of African destinations (especially Algeria, Morocco and Ghana, but also several others) are well above expected levels due to strong sustained wheat sales. However, these exports have not scaled over time as they reflect population trends

and structural domestic production gaps in the destination economies, rather than growing Canadian export capabilities.

Canada performs relatively strongly in exporting manufactured goods to some African markets. Ghana tops the list, importing about US\$ 76 million (or 126%) more from Canada than would be expected. This reflects a relatively varied mix of products, ranging from automotive to machinery and equipment and smaller quantities in a range of other products. In Ethiopia, Canada exports about US\$ 30 million more than would be anticipated, boosted by significant amounts of aerospace products, likely reflecting Ethiopian Airlines role as one of Africa's main carriers and Addis Ababa's role as a major air hub. And Canada does well in manufactured goods exports to Burkina Faso due to Canada's investment presence in mining – Canada is the biggest investor in Burkina Faso's mining sector.

However, in the largest African economies and particularly in the dynamic “Lion” economies, Canada under-performs, especially in scalable manufactured goods exports.

For the ten major under-traded markets, the shortfall in Canadian exports is about US\$ 900 million or roughly half of what would be expected. The lion's share of the shortfall is due to missing manufactured goods exports. Canada's actual exports to these ten markets of about US\$ 650 million is less than half the expected US\$ 1.4 billion. Agri-food exports also fall well short (42%) of expected levels.

The above analysis establishes that Canada has in effect left money on the table by neglecting its trade relationship with Africa. It is currently under-performing substantially and in areas where it is performing well the performance is based on traditional areas of Canada's strength which do not promise to scale with African economic growth. This does not bode well for Canada's future relationship with Africa as an emerging market.

This point is underscored by examining how Canada is doing in the fastest growing and most dynamic African economies. While a number of African economies have been given the “Lion” label, many more African economies are forecast to have strong real growth in international purchasing power, with 23 economies projected to average above 7% growth in US dollar terms over the period 2020-2024 (IMF, 2019).

For a select group of 12 high-growth economies, which are projected by the IMF to average 9.3% annual growth in US dollar terms over the period 2020-2024, Canada's exports to these countries are on average more than 40% below what might be expected for a total shortfall of almost USD 780 million. Given the rapid growth of these economies, this underdeveloped market presence leaves Canada poorly positioned to capture these significant new growth and diversification opportunities.

Canada has made trade diversification a key objective in a global trade context that features heightened uncertainty in many of Canada's major markets – not least in an increasingly protectionist US market and an increasingly problematic Chinese market. Africa represents a growth opportunity that Canada has expended little trade promotion capital to capture.

1 Introduction

Africa is becoming increasingly prominent in trade policy and promotion initiatives. Steady growth over the past two decades has resulted in the economy of Sub-Saharan Africa (SSA) approaching the US\$ 4.8 trillion dollar mark in terms of purchasing power parity in 2020 and the US\$ 2 trillion dollar mark at market exchange rates (IMF, 2019). Adding in the Maghreb economies of North Africa raises these figures to US\$ 7.5 trillion and US\$ 2.6 trillion respectively. Several African economies have been dubbed “Lion Economies” in acknowledgement of their above-average economic performance. And, at a time of growing barriers to international trade and investment, Africa is moving to remove internal barriers through the African Continental Free Trade Agreement (AfCFTA) and infrastructure projects that improve internal connectivity by road, rail, and telecommunications.

The major economies are all targeting Africa: the European Union with its Economic Partnership Agreements (which it needs for WTO compliance but also in the hope of accelerating economic development to stem the flow of refugees); China with its Belt and Road (including the Digital Silk Road) Initiative; the United States with its Prosper Africa project, which is a reaction to the expansion of China’s relationship with Africa; and most recently Russia, which organized a summit with African leaders in Sochi.¹

Canada’s engagement with Africa increased over the past two decades – and favourably compared to the US and EU in relative terms. The share of Canada’s merchandise imports sourced from Africa grew between 2001 and 2018, and the share of Canada’s worldwide exports going to Africa almost doubled. The only country that matched Canada’s share increase in exports to Africa in relative terms was China, which also nearly doubled the share of its worldwide exports going to Africa. China’s engagement with Africa was even stronger on the import side as the share of its worldwide imports coming from Africa more than doubled.

Table 1: Canada’s Trade Engagement with Africa in International Comparison

	Canada	USA	EU	India	China
Imports					
Imports from Africa - 2001	1,491	25,427	76,972	2,437	4,793
Imports from Africa - 2018	3,390	36,884	183,797	41,511	99,026
Cumulative Growth	127%	45%	139%	1603%	1966%
Share sourced from Africa - 2001	0.67%	2.23%	3.15%	4.81%	1.97%
Share sourced from Africa - 2018	0.74%	1.41%	2.87%	8.18%	4.64%
Exports					
Exports to Africa - 2001	1,000	12,117	61,500	2,810	5,963
Exports to Africa - 2018	3,334	25,947	177,365	26,953	104,959
Cumulative Growth	233%	114%	188%	859%	1660%
Share of exports destined for Africa - 2001	0.38%	1.66%	2.53%	6.41%	2.24%
Share of exports destined for Africa - 2018	0.74%	1.56%	2.75%	8.34%	4.21%

Source: International Trade Centre, Trademap.

¹ See the summit declaration at <https://summitafrica.ru/en/about-summit/declaration/>

However, in terms of absolute scale of two-way trade, Canada trails far behind. The EU and China are far ahead of the others in scale. In terms of growth, while Canada more than tripled its exports to Africa over the period (from \$1 billion to 3.3 billion), India expanded its exports to Africa almost 10-fold (from \$2.8 billion to \$27 billion) and China more than 17-fold (from \$6 billion to 105 billion, while the EU led in absolute terms with an expansion of exports of over \$115 billion.

With the other major economies all making a big Africa push, partly for commercial reasons and partly for strategic reasons, Canada risks being shunted aside, absent a strategy to sustain and expand its current small foothold, especially as Africa does not appear to be a priority for Canada and hosts limited Canadian trade promotion resources.

Developing an effective Africa trade strategy will not be a simple matter. Since the Kananaskis initiative in 2002 during Canada's year as G7 chair, Canada has provided duty-free, quota-free market access to much of Sub-Saharan Africa. Accordingly, in the traditional trade negotiating context of offering reciprocal improved market access, Canada has little to offer Sub-Saharan African states in exchange for tariff elimination. Canada is not alone in having this problem: the EU has struggled to negotiate Economic Partnership Agreements (EPAs) to comply with WTO rulings concerning the Cotonou framework of trade preferences that the EU provides the African, Caribbean and Pacific developing economies. Further, the AfCFTA will not initially be a customs union that negotiates FTAs/EPAs as a group. Accordingly, an FTA approach would represent a large and cumbersome trade policy agenda, given the number of states involved, many of which have limited trade negotiating resources.

The interesting statistic for Canada in this context is the absolute value of growth of exports by the major economies to Africa over the past two decades: US\$ 250 billion. This is a contestable market served by exporters around the world. It is large, and it is growing, even in the absence of major FTAs liberalizing African markets to third parties. This is the figure that is of interest to Canada as an exporting nation looking to diversify its markets.

This study considers Canada's actual trade performance with Africa and its unexploited trade potential in a gravity model context. The gravity model is premised on the observation that countries trade more intensively with partners that are larger, geographically closer, more open, have greater economic freedom, and with which they share commonalities that tend to reduce trade costs, such as common language, common cultural characteristics, common legal systems, common currencies, and historical ties. Bilateral FTAs and diplomatic representation also systematically boost bilateral trade.

Gravity models take these various effects into account and allow the calculation of an expected level of trade, which can be compared to actual levels to provide an indication of possibly unexploited trade potential. This in turn facilitates identification of priority markets and thus sets an agenda for deeper dives into particularly promising markets to identify where trade promotion and economic diplomacy tools may have the greatest traction.

This study is organized as follows. Section 2 describes the data and the core gravity model developed for this analysis, as well as the econometric strategy. Section 3 sets out the results of the estimation and comments on the robustness of the estimation. Section 4 considers the

implications of the analysis in terms of unexploited trade potential, historically and in the context of the evolution of the anticipated evolution of the African economy over the coming decade.

2 Methodology

2.1 The Gravity Model of Trade

As the name suggests, the gravity model of trade is based on an analogy to the concept of gravity in physics, relating bilateral trade between two countries to the size of trading partners and the distance between them, as well as to trade frictions (which stand in for the physical concept of a gravitational constant). Gravity models are a workhorse tool for the analysis of international trade patterns and the impacts of many types of trade policies (e.g., the level of diplomatic representation, the presence of an FTA, etc.).

In terms of theoretical foundations, gravity equations can be derived from standard trade theories, including the modern workhorse heterogeneous firms theory (Melitz, 2003).² Protection/tariff data are included in some gravity models; however, differing levels of protection get picked up as part of “multilateral resistance” (Anderson and van Wincoop, 2003), which captures the effect on any given bilateral trade flow of other trading possibilities that face the bilateral partners.³

To implement this analysis, we estimated various versions of the following equation:

$$X_j = \beta_0 + \beta_1 \ln GDP_{CDA} + \beta_2 \ln POP_j + \beta_3 PCGDP + \beta_4 \ln D_j + \beta_5 G_{gj} + \beta_6 EFI_j + \beta_7 Post_j + \varepsilon$$

where

X_j denotes Canadian exports to country j (measured by partner imports)

D_j denotes the distance of country j from Canada

GDP_{CDA} denotes Canada’s GDP

POP_i denotes the population of country j

$PCGDP_j$ denotes the per capita GDP of country j

G_{gij} stands for a set of dummy variables indexed by g that control for a range of factors that have been demonstrated to affect trade intensity, including whether Canada and country j share a common language, common legal system, a common currency, or a common

² For recent reviews of the theoretical foundations of the trade gravity equation, see Anderson (2010), Bergstrand and Egger (2011), and Costinot and Rodríguez-Clare (2013). Olivero and Yotov (2012) develop a dynamic gravity model for use with panel data (for an example of dynamic panel methods, see inter alia De Benedectis and Vicarelli, 2005).

³ Multilateral resistance is best illustrated by comparing trade between Australia and New Zealand and trade between Austria and Portugal. While the two country pairs have similar size-distance relationship, Australia and New Zealand trade more intensively with each by an order of magnitude more than do Austria and Portugal, because between the former lies the Tasman Strait and between the latter lie many trade opportunities in Spain, France, and Germany.

colonial history or “sibling” relationship (e.g., membership in the British Commonwealth); if the partner country is landlocked or an island; physical size of the partner country, etc.

EFI_j is an index measuring economic freedom in the destination market

$Post_j$ denotes whether Canada has an active diplomatic presence in country j .

2.2 Data

We draw on data for Canadian exports for the period 2010-2018, which provides a large panel dataset covering the recent period when African economies’ growth accelerated and thus reflects the conditions that generated the strengthened growth in African trade. We include all of Canada’s trading partners for which data are available. For the final estimating equations we focus on the most recent years, 2016-2018, and exclude the United States, which is a special case for Canada, given that it is the only country with which Canada has a land border and that Canada’s economy is essentially strung out along the US border, bringing into trade a range of products with high weight to value ratios that do not trade extensively at a distance (e.g., cement).

To take account of the fact that mined products (including oil and gas) do not follow gravity patterns (due to high weight-to-value ratios for raw materials and the use of pipelines for oil and gas), we focus on Canadian exports of manufactured goods and agri-food.

To provide a forward-looking perspective on the implications of committing to an Africa commercial strategy, we take into account the implications of differential rates of growth in African economies by projecting their GDP levels forward to 2025, taking into account the expected contribution to growth of the AfCFTA as well as the improvement of Africa’s transportation network and trade infrastructure, in part assisted by the burgeoning competition among the major powers to capture the African market.

This provides the basis for insights for each destination market for each category of exports:

- Expected actual exports on a “business as usual” growth through 2025; and taking into account a higher growth trajectory given the AfCFTA and Africa’s infrastructure and trade facilitation improvements.
- The potential for expanding exports based on closing the under-trading gap compared to Canada’s global average export performance.

Data are sourced as follows: trade data are drawn from UN Comtrade and ITC Trademap; distance and the conventional gravity variables are drawn from CEPII’s gravity data set; population and GDP data are from the IMF World Economic Outlook database (October 2019). Other sources drawn on for data used in various equations include: economic freedom, which is based on the Fraser Institute’s Economic Freedom Index; and the Canadian foreign posts data, which is drawn from Diplometrics.

It is generally accepted that import values are more accurate than export values since customs authorities are more diligent in documenting final destination of goods for the purposes of applying

tariffs and other trade policies. However, about 20% of the observations were missing in the import data. Given the large volume of missing data we used trade exports as reported by Canada.

2.3 Estimation technique

To estimate the gravity equation, we use the popular pseudo Poisson maximum likelihood (PPML) estimator (following Santos Silva and Tenreyro, 2006; 2015). which has a particularly important advantage for the present exercise in that it accommodates zero values of the dependent variable (which ordinary least squares regression techniques cannot handle when equations are estimated in double-log form). PPML also successfully addresses the issue of heteroskedasticity, which is a common issue in trade data.

Robustness checks are conducted through the inclusion/exclusion of relevant variables so as to assess the sensitivity of the results under alternative specifications of the model. We estimate the model sequentially, adding variables to identify the final form in which any modification of the variables leads to only minor changes in the results, suggesting a high level of robustness and validity of the suggested model.

3 Estimation Results

Table 2 provides the results for the main equation on which we settle for the alternative categories of Canadian exports. Generally, the pattern of Canadian global exports of goods in these broad categories follows the expected lines of economic geography. The three equations explain a high percentage of the variation (on the order of 80-90%) of Canadian exports in each category by destination market.

The **size of Canada's economy**, which captures its potential as a source of exports, has the expected positive effect on the scale of Canada's exports; however, for the period we study, it was not an important factor. An increase in the size of Canada's economy by 1% results in an expansion of total goods exports of about 0.17%; for manufactures, the figure is somewhat greater at 0.27%. For agri-food products, the impact is close to zero and in fact marginally negative (-0.08%). In other words, agricultural exports do not "scale" with the overall size of Canada's economy, whereas manufactured goods exports do. This is intuitive: the main factor of production in agriculture is land, which is difficult to transform from non-agricultural to agricultural production.

The **size of the partner's economy**, which measures demand-pull, is a highly significant determinant of the direction of Canadian exports for all categories of goods. We use a combination of population and per capita GDP to capture the effect of increasing size and demand for imports. For every 1% increase in the size of the partner economy as measured by population, Canada's exports of goods are about 1.0% larger (slightly more for agri-food and slightly less for manufactures). Exports also systematically increase with increasing incomes in the destination economy: for every 1% increase in the per capita GDP of the destination economy, Canada's exports are about 0.94% higher (about 0.85% for agri-food and 1% for manufactures).

Increasing **distance** to foreign markets reduces Canada’s exports: Canada’s exports are about 0.60% smaller for every 1% increase in distance for all goods, with a much smaller impact on agri-food products (-0.34%), but much stronger for manufactures (-0.70%).

The impact on trade intensity of commonalities such as common colonial history that reduce bilateral trade costs are captured by dummy variables, which takes the value of 1 when the commonalities are present and zero otherwise. Several of these were tested – common language, common colonial history, and common legal systems. These tend to be highly correlated. The estimated coefficient (0.38) for **siblings** in the equation for total goods is converted to a trade impact as follows: $\exp(0.38)-1 = 46.2\%$. In other words, Canada’s exports to a given destination are about 46.2% higher if that destination has a common colonial history with Canada.

Africa as a destination plays an important role in trade flows. The estimated coefficient (-0.337) for a dummy variable for Africa in the equation for total goods is converted to a trade impact as follows: $\exp(-0.337)-1 = (28.6)\%$. In other words, Canada’s exports to a given destination are about 28.6% lower if that destination is in Africa. The impact is substantially larger for manufactures with exports 45.5% lower. Agricultural products on the other hand were 8.6% higher for African destinations. This underscores that exports of agricultural commodities behave structurally differently than manufactures.

Membership in the Francophonie, use of the CFA franc, participation in the various African based Common Markets and FTA’s (COMESA, COMESA FTA, EAC, ECCAS, ECOWAS, OHADA, SACU, SADC, UDEAC) were also examined. There was little explanatory value for these dummy variables. The economic freedom index shows that Canada exports more to countries that have higher scores (are more economically free); however, the quantitative impact of taking this variable into account is modest. The various estimations are available on request.

Table 2: Estimation Results – Alternative Specification of Canadian Exports

	Goods ex Mines and Fossil Fuels	Agriculture & Agri-food	Manufactures
lnGDP_o	0.17	-0.09	0.28
lnpop_d	0.99	1.08	0.95
lnGDPPC_d	0.95	0.85	1
Indistw	-0.60	-0.35	-0.70
Sibling	0.38	0.37	0.35
Africa dummy	-0.34	0.08	-0.61
Observations	537	537	537
R-squared	0.9078	0.8237	0.9041

Source: Estimates by the study team.

To summarize, Canada’s exports beyond the United States rise proportionately with the size of the destination economy and fall proportionately with increasing distance. For manufactures, exports are larger by close to half to countries with which Canada shares important commonalities of law, language and history that tend to reduce bilateral trade costs. Including a dummy variable for Africa suggests that Canadian manufactured exports are lower by close to 50% lower simply because the destination economy is in that region.

4 Canadian Export Performance in African Markets

Based on the estimated gravity equation, it is possible to establish a predicted level of Canadian exports by market and to compare this level to the actual level. If predicted levels are higher than actual, this may indicate that Canada has unexploited export potential. For example, missing trade may be due to factors that are not visible to gravity models but which may be amenable to policy treatment (e.g., the absence of firm-level connections, which may be addressed by expanding trade missions, or increasing attention to promoting Canada's brand in African destinations). If actual levels are higher than predicted, drilling deeper may suggest the factors that are generating that higher level of performance. Shedding light on the scale of under- and over-trading by market assists in identifying where and how to deploy policy capital to expand exports.

The next subsection presents the results of this exercise based on the average performance in the three most recent years for which data are available (2016-2018). Subsection 4.2 projects GDP to 2025 to capture the implications of differential growth rates in partner economies. Subsection 4.3 looks at the most dynamic African economies – the so-called “Lion Economies” – which might be of particular interest for Canadian business.

4.1 Current Performance Level by African Destination

Table 3 provides in each of the three categories of exports, the top 10 markets in which Canada performs strongly. As can be seen, where Canada does well in exporting to African destinations, the strong performance is mainly due to agri-food exports.

Three markets stand out in terms of Canada exporting more than suggested by the model: Algeria, Morocco and Ghana. Algeria averaged about US\$ 435 million worth of imports or US\$ 192 million or 79% more than would be expected based on the gravity model relationship. Exports to Morocco beat expectations by US\$ 130 million or 79% on average. Exports to Ghana were US\$ 100 million or a full 114% more than expected. All three are long-standing destinations for Canadian **wheat** exports – and it is the wheat exports which account for the bulk of exports beyond what would be expected. While important for Canada, these export flows have not scaled over time. Three other markets in which Canada also shows good performance – albeit on a much smaller absolute scale – are Cameroon, Mozambique and Togo. In each case, the strong performance is also due to wheat sales, and in each case the purchases have been relatively stable over time and have not scaled. Canada's good agri-food export performance in Tunisia and Malawi is also driven by wheat sales.

In terms of manufactured goods, Ghana tops the list in absolute terms, with a relatively varied mix of imports, ranging from automotive to machinery and equipment and smaller quantities in a range of other products. Relative to expectations in percentage terms, however, Burkina Faso stands out absorbing US\$ 36.5 million of Canadian exports compared to US\$ 11 million expected. A special factor is at play here: Canadian manufactured goods exports to Burkina Faso are linked to Canada's investment presence in mining – Canada is the biggest investor in Burkina Faso's mining sector. In Ethiopia, Canada has a range of machinery and equipment exports, including significant amounts of aerospace products, reflecting Ethiopian Airlines role as one of Africa's main carriers and Addis Ababa's role as a major air transport hub.

Table 3: Best Performing Canadian Export Destinations in Africa, 2016-2018

	Actual	Predicted	Margin	% Margin
Goods (ex precious metals and fossil fuels)				
Algeria	434.7	242.7	192.0	79%
Morocco	295.3	165.4	129.9	79%
Ghana	187.8	87.9	99.9	114%
Burkina Faso	39.0	17.7	21.3	121%
Mozambique	34.1	13.3	20.7	155%
Congo	17.9	10.6	7.3	69%
Togo	13.8	6.5	7.3	111%
Mauritania	14.2	7.6	6.6	88%
Benin	19.1	12.5	6.6	53%
Senegal	36.7	31.8	4.9	15%
Top 10 Over-traded	1,092.5	596.0	496.6	83%
Agri-food				
Algeria	351.6	70.9	280.6	396%
Morocco	248.4	48.0	200.4	418%
Ghana	100.0	28.7	71.3	249%
Mozambique	24.5	5.6	18.8	334%
Cameroon	30.5	14.5	16.0	110%
Togo	7.1	2.1	4.9	230%
Tunisia	19.6	15.4	4.2	27%
Malawi	5.6	4.1	1.5	38%
Congo	4.3	3.0	1.3	43%
Cabo Verde	1.1	0.6	0.5	95%
Top 10 Over-traded	792.7	193.0	599.7	311%
Manufactures				
Ghana	87.4	56.4	30.9	55%
Burkina Faso	36.5	11.4	25.1	220%
Ethiopia	74.8	53.2	21.7	41%
Benin	17.4	8.3	9.1	110%
Mauritania	13.9	5.5	8.5	156%
Senegal	29.2	21.7	7.5	35%
Congo	13.5	7.4	6.1	82%
Mali	18.9	14.5	4.4	30%
Madagascar	11.1	6.9	4.2	61%
Togo	6.3	4.3	2.0	46%
Top 10 Over-traded	309.0	189.6	119.4	63%

Source: Estimates by the study team.

Table 4 identifies the most under-traded markets in each for the three categories of goods. Nigeria, South Africa and Egypt stand out as markets where Canada would be expected to be exporting much more. Exports to Nigeria are less than half the predicted amount of almost US\$ 700 million. To South Africa, exports are one-third smaller than the predicted US\$ 460 million. And to Egypt, they are 40% below the expected US\$ 328 million. For the ten major under-traded markets, the shortfall in Canadian exports is close to US\$ 900 million or roughly half of what would be expected. The lion's share of the shortfall is due to missing manufactured goods exports. Canada's actual exports of manufactured goods to these ten markets of about US\$ 650 million is less than half the expected US\$ 1.4 billion. Agri-food exports also fall well short (42%) of expected levels.

Table 4: Largest Unexploited Export Potential in African Destinations, 2016-2018

	Actual 2016-2018	Predicted 2016-2018	Margin	% Margin
Goods (ex precious metals and fossil fuels)				
Nigeria	305.9	697.2	-391.3	-56%
South Africa	305.7	458.7	-152.9	-33%
Egypt	196.3	327.8	-131.5	-40%
Angola	50.3	121.1	-70.8	-58%
Sudan	27.1	75.9	-48.8	-64%
Uganda	19.0	43.4	-24.4	-56%
Zambia	15.4	36.9	-21.5	-58%
Libya	18.8	38.2	-19.5	-51%
Zimbabwe	9.4	26.8	-17.4	-65%
Tanzania	63.4	79.9	-16.5	-21%
Top 10 Under-traded	1,011.4	1,906.0	-894.6	-47%
Agri-food				
South Africa	58.5	155.4	-97.0	-62%
Nigeria	211.7	265.1	-53.4	-20%
Egypt	75.5	114.4	-38.9	-34%
Ethiopia	0.1	37.2	-37.1	-100%
Uganda	2.9	17.0	-14.0	-83%
Zambia	0.2	12.8	-12.7	-99%
Tanzania	19.9	31.3	-11.5	-37%
Kenya	34.1	45.1	-11.0	-24%
Cote d'Ivoire	6.9	17.2	-10.4	-60%
Libya	0.5	9.7	-9.3	-95%
Top 10 Under-traded	410.2	705.4	-295.2	-42%
Manufactures				
Nigeria	93.8	417.5	-323.6	-78%
Egypt	119.8	210.5	-90.7	-43%
Algeria	82.7	168.0	-85.2	-51%
Morocco	46.4	114.7	-68.4	-60%
Angola	15.2	81.2	-65.9	-81%
South Africa	246.2	291.5	-45.4	-16%
Sudan	4.9	46.3	-41.4	-89%
Cameroon	9.3	28.0	-18.6	-67%
Zimbabwe	2.3	16.7	-14.5	-87%
Tunisia	28.2	41.2	-13.0	-32%
Top 10 Under-traded	648.9	1,415.6	-766.8	-54%

Source: Estimates by the study team.

The above analysis establishes that Canada has in effect left money on the table by neglecting its trade relationship with Africa. It is currently under-performing substantially and in areas where it is performing well the performance is based on traditional areas of Canada's strength which do not promise to scale with African economic growth. This does not bode well for Canada's future relationship with Africa as an emerging market.

This point is underscored by examining how Canada is doing in the fastest growing and most dynamic African economies. As African economic performance improved over the course of the past two decades, a number of economies attracted the label "Lion Economies", in particular: Ethiopia, Ghana, Kenya, Mozambique, Nigeria, and South Africa (MGI, 2010; Borat and Tarp, 2016). However, many more African economies are forecast to have strong real growth in

international purchasing power, with 23 economies projected to average above 7% in US dollar terms over the period 2020-2024 (IMF, 2019).

Canada's performance in these markets is mixed but suggests that there are significant opportunities for Canadian producers to increase their share of market. In Table 5, the gravity model results for 12 high growth economies are shown. These countries are projected to average 9.3% annual growth in US dollar terms over the period 2020-2024. Canada's exports to these countries are on average more than 40% below what might be expected for a total shortfall of almost USD 780 million. Given the rapid growth of these economies, this underdeveloped market presence leaves Canada poorly positioned to capture these significant new growth and diversification opportunities.

Table 5: Canada's Export Performance High-Growth Economies, 2016-2018

	Goods ex Mined & Fossil Fuels		Agri-Food		Manufactures		IMF 2020-24 USD Growth Rate
	USD Millions Over/Under Traded	Over/Under-traded % of Forecast	USD Millions Over/Under Traded	Over/Under-traded % of Forecast	USD Millions Over/Under Traded	Over/Under-traded % of Forecast	
Nigeria	-391,297	-56%	-53,425	-20%	-323,643	-78%	11.3
South Africa	-152,945	-33%	-96,956	-62%	-45,365	-16%	3.9
Egypt	-131,507	-40%	-38,866	-34%	-90,652	-43%	8.5
Uganda	-24,370	-56%	-14,038	-83%	-9,722	-38%	10.7
Tanzania	-16,508	-21%	-11,497	-37%	-7,145	-15%	8.2
Kenya	-16,395	-13%	-11,033	-24%	-3,702	-5%	10.0
Cote d'Ivoire	-16,348	-31%	-10,370	-60%	-5,696	-16%	8.9
Ethiopia	-14,321	-16%	-37,099	-100%	21,664	41%	9.9
Rwanda	-6,793	-66%	-1,778	-49%	-5,012	-76%	9.1
Niger	-5,688	-49%	-4,188	-100%	-3,398	-46%	10.1
Guinea	-1,687	-12%	-3,599	-77%	1,357	14%	7.4
Gambia	-1,325	-39%	-290	-32%	-982	-41%	7.0
Total/Ave.	-779,185	-41%	-283,139	-41%	-472,295	-40%	9.3

Source: Estimates by the study team. Lion Economies (Tarp, 2016); (International Monetary Fund, October 2019)

4.2 Projected Potential Trade

We extend the above analysis by considering what correcting the under-trading might mean in terms of additional exports by 2025 and 2030, given the relatively strong expected growth in Africa coupled with the strong expected expansion of trade in this region due both to the AfCFTA, the improving trade infrastructure and the rapid spread of ecommerce (especially payments with fintech), which is helping African overcome infrastructure deficits by leapfrogging to mobile commerce. As African economies expand trade, more firms will become capable of trading across borders and will establish themselves as potential partners for Canadian suppliers.

For the top ten under-traded economies in 2025, compared to the current levels of trade, the potential export growth would amount to USD 2.5 billion, including almost USD 1.9 billion in manufactured goods exports. These increases would rise to USD 4 billion and USD 4.1 billion if it were possible to fully offset the "Africa discount" effect on Canada's exports (which amounts to 28.6% overall reduction of trade for all goods and a 45.6% reduction for manufactures).

Table 6: Export Growth Potential in African Destinations, 2025

	Actual 2016-2018	Predicted 2025	Growth Potential (USD millions)	Growth Potential (%)
Goods (ex precious metals and fossil fuels)				
Nigeria	305.9	1,494.00	1,188.10	388%
Egypt	196.3	574.9	378.60	193%
South Africa	305.7	643.7	338.00	111%
Kenya	106.2	269.7	163.50	154%
Ethiopia	75	190.9	115.90	155%
Tanzania	63.4	149	85.60	135%
Angola	50.3	131.2	80.90	161%
Uganda	19	94.6	75.60	398%
Cote d'Ivoire	36.8	95.8	59.00	160%
Sudan	27.1	68.2	41.10	152%
Top 10 Under-traded	1,185.80	3,711.90	2,526.10	213%
Agri-food				
Nigeria	211.7	501.5	289.80	137%
South Africa	58.5	198.4	139.90	239%
Egypt	75.5	180.4	104.90	139%
Ethiopia	0.1	69.1	69.00	69000%
Kenya	34.1	87.3	53.20	156%
Tanzania	19.9	53.2	33.30	167%
Uganda	2.9	32.7	29.80	1028%
Cote d'Ivoire	6.9	27.9	21.00	304%
Zambia	0.2	14.2	14.00	7000%
Libya	0.5	12.6	12.10	2420%
Top 10 Under-traded	410.2	1,177.40	767.20	187%
Manufactures				
Nigeria	93.8	943.5	849.70	906%
Egypt	119.8	386.1	266.30	222%
South Africa	246.2	425.8	179.60	73%
Morocco	46.4	192.9	146.50	316%
Algeria	82.7	196.4	113.70	137%
Kenya	71.2	174.1	102.90	145%
Angola	15.2	89.7	74.50	490%
Tanzania	40.3	92.1	51.80	129%
Ethiopia	74.8	120.7	45.90	61%
Uganda	16.1	59.3	43.20	268%
Top 10 Under-traded	806.7	2,680.50	1,873.80	232%

Source: Estimates by the study team.

For all African economies, we find that, if Canada exported to this region on a par with its global performance, exports to Africa would be USD 5.3 billion in 2025, suggesting a growth potential of about USD 2.8 billion over the coming half-decade from the level recorded on average over the period 2016-2018 of USD 2.5 billion. The level of potential exports would rise to USD 7.4 billion, representing an export increase of USD 4.9 billion from the level recorded on average over the period 2016-2018, if the “Africa discount” effect were to be fully offset.

Repeating this exercise for 2030, we find that, for the top ten under-traded economies, compared to the current levels of trade, the potential export growth would amount to USD 3.5 billion,

including almost USD 2.6 billion in manufactured goods exports. These increases would rise to USD 5.3 billion and USD 5.5 billion respectively if it were possible to fully offset the “Africa discount” effect on Canada’s exports (which amounts to 28.6% overall reduction of trade for all goods and a 45.6% reduction for manufactures).

Table 7: Export Growth Potential in African Destinations, 2030

	Actual 2016-2018	Predicted 2030	Margin	Growth Potential (%)
Goods (excluding precious metals and fossil fuels)				
Nigeria	305.9	2,015.00	1,709.10	559%
Egypt	305.7	763.1	457.40	150%
South Africa	196.3	590.2	393.90	201%
Kenya	106.2	360.5	254.30	239%
Ethiopia	75	251.4	176.40	235%
United Rep. of Tanzania	50.3	172.3	122.00	243%
Angola	19	140.2	121.20	638%
Uganda	63.4	153	89.60	141%
Cote d'Ivoire	36.8	118.5	81.70	222%
Sudan	27.1	85.5	58.40	215%
Top 10 Under-traded	1,185.80	4,649.90	3,464.10	292%
Agri-food				
Nigeria	211.7	647.5	435.80	206%
South Africa	58.5	226.7	168.20	288%
Egypt	75.5	182.4	106.90	142%
Ethiopia	0.1	86.8	86.70	86700%
Kenya	34.1	112	77.90	228%
United Rep. of Tanzania	2.9	46.1	43.20	1490%
Uganda	19.9	53.9	34.00	171%
Cote d'Ivoire	6.9	33.3	26.40	383%
Zambia	0.2	19.6	19.40	9700%
Libya	34.4	50.6	16.20	47%
Top 10 Under-traded	444.1	1,459.00	1,014.90	229%
Manufactures				
Nigeria	93.8	1,296.40	1,202.60	1282%
Egypt	119.8	398.6	278.80	233%
South Africa	246.2	512.7	266.50	108%
Morocco	46.4	252.2	205.80	444%
Algeria	71.2	236.9	165.70	233%
Kenya	82.7	230.7	148.00	179%
Angola	15.2	119.7	104.50	688%
United Rep. of Tanzania	74.8	162.2	87.40	117%
Ethiopia	87.4	163.3	75.90	87%
Uganda	16.1	89.8	73.70	458%
Top 10 Under-traded	853.7	3,462.60	2,608.90	306%

Source: Estimates by the study team.

For all African economies combined, we find that, if Canada exported to this region on a par with its global performance, exports to Africa would be USD 6.6 billion in 2030, suggesting a growth potential of about USD 4.1 billion over the coming half-decade from the level recorded on average over the period 2016-2018 of USD 2.5 billion. The level of potential exports would rise to USD

9.25 billion, representing an export increase of USD 6.7 billion from the level recorded on average over the period 2016-2018, if the Africa discount were fully offset.

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