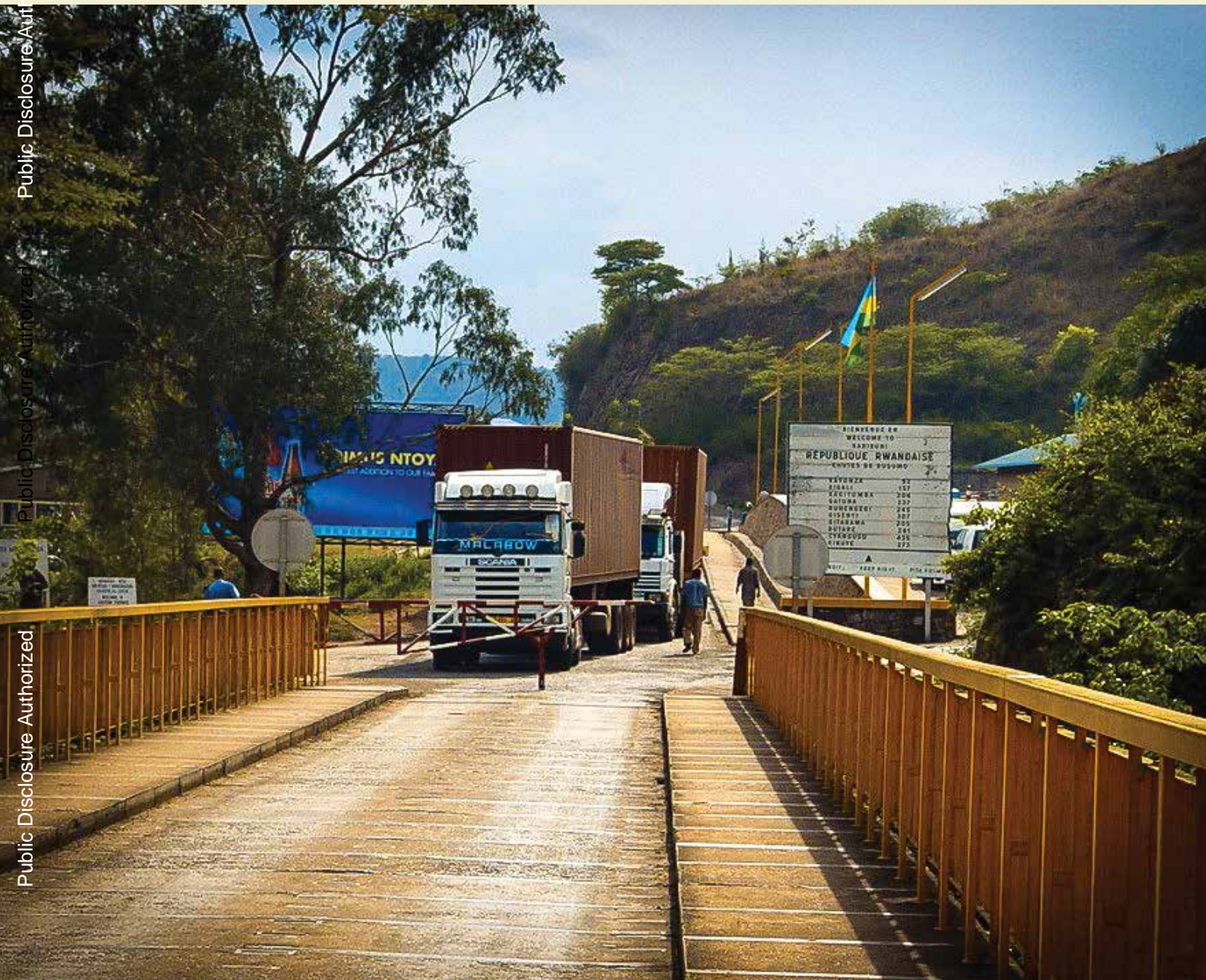


Rwanda Economic Update

Tenth Edition | August 2017

Sustaining Growth by Building on Emerging Export Opportunities



Rwanda Economic Update

*Sustaining Growth by Building
on Emerging Export Opportunities*

August 2017

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ACRONYMS

BNR	National Bank of Rwanda
CR	Country Report
COMESA	Common Market of Eastern and Southern Africa
EAC	East Africa Community
EDPRS	Economic Development and Poverty Reduction Strategy
EMB	Electronic Billing Machines
FY	Fiscal Year
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ILO	International Labor Organization
IMF	International Monetary Fund
LFS	Labor Force Survey
MICE	Meetings Incentives Conference and Events
MINECOFIN	Ministry of Finance and Economic Planning
NEER	Nominal Effective Exchange Rate
NISR	National Institute of Statistics on Rwanda
RDB	Rwanda Development Board
REER	Real Effective Exchange Rate
RRA	Rwanda Revenue Authority
Rwf	Rwandan Franc
SSA	Sub-Saharan Africa
TFP	Total Factor Productivity
UN	United Nations
US\$	United States Dollar
COMESA	Common Market for Eastern and Southern Africa

FOREWORD

The Rwanda Economic Update (REU) reports on and synthesizes recent economic developments, and places them in a medium term, regional, and global context. It analyses the implications of these developments and policies for the outlook of the economy. These reports attempt to make an analytical contribution to the implementation of Rwanda’s national development strategy. Each edition includes a special feature on a selected topic. The report is intended for a wide audience, including policy makers, business leaders, other market participants, the community of analysts engaged in Rwanda’s economy, and civil society.

The tenth edition of the REU was jointly prepared by the Rwanda Macroeconomics and Fiscal Management Global Practice team and the Trade and Competitiveness Practice team at the World Bank. The teams were led by Aghassi Mkrtchyan (Country Economist) and Hamidou Songo (Senior Private Sector Specialist). Peace Aimee Niyibizi (consultant) led the analysis of recent macroeconomic developments. Susan Kayonde (Private Sector Specialist) led the section on export sector performance. Hibret Maemir (Research Analyst) led the exporting firm analysis. The section on productivity and structural transformation drew on an initial draft paper by Yoichiro Ishihara (Senior Economist). Sonia Plaza (Senior Economist) and Shahrzad Mobasher Fard (Consultant) also contributed to the report. The team was supervised by Kevin Carey (Lead Economist) and Johan Mistiaen (Lead Economist and Program Leader) and Paul Brenton (Lead Economist). The report was prepared under the overall guidance of Diariétou Gaye (Country Director), Abebe Adugna (Practice Manager), Catherine K. Masinde (Practice Manager) and Yasser El-Gammal (Country Manager). Sylvie Ingabire and Karima Ladjo (Team Assistants) supported the team. Yoichiro Ishihara (Senior Economist), Marina Bakanova (Senior Economist), and Ali Zafar (Senior Economist) were peer reviewers.

Although this report does not represent the official views of the Rwandan authorities, the macroeconomic unit of the Ministry of Finance and Economic Planning (MINECOFIN) and the National Bank of Rwanda (BNR) were engaged in its formulation and provided valuable comments. The World Bank team appreciates their contributions.

EXECUTIVE SUMMARY

Context

The 10th Economic Update comes at an important juncture for Rwanda. The country has entered the third decade of uninterrupted economic growth and social progress. Rwanda's global income ranking improved from the seventh poorest in 2000 to the 20th in 2015, on the back of Rwanda's strong commitment to good governance, the principles of market economy and openness. The growth, however, has been slowing down recently and is expected to remain subdued in 2017. Going forward, achieving Rwanda's ambition of attaining middle-income status requires sustaining the average growth rate of the past two decades in the years to come. The Vision 2050, and the new EDPRS, currently under preparation will provide the roadmap for adapting the economy to the evolving regional and global context and maintaining a growth rate that delivers poverty reduction and prosperity.

In addition to presenting recent macroeconomic developments, this update also discusses the longer term patterns of productivity and structural transformation and derives some broad lessons for growth strategy. As a special topic for this edition, the update presents an analysis of Rwanda's export sector performance, an important issue for Rwanda in the light of the centrality of exports for Rwanda's long-term growth strategy. The key findings and insights from these analyses are summarised below.

Recent Macroeconomic Developments

Growth in 2016 slowed down to around 6 percent, reflecting the need to address growing external imbalances through fiscal restraint and greater exchange rate flexibility. This was further magnified by supply shocks due to drought, and the weak prices for Rwandan exports throughout 2016. In the first quarter of 2017, growth further

slowed to 4.2 percent (annualized) due to weak performance in agriculture and construction. The key outcomes of 2016 and the first quarter of 2017 include the reversal of growing external imbalances and maintaining single-digit inflation amid food price shocks and a sizable exchange rate depreciation.

With respect to the economy's production side, the growth in all key economic sectors slowed down. Agriculture grew by 3.9 percent in 2016 compared to 5 percent in 2015 largely reflecting unfavourable weather conditions. In the first quarter of 2017, the growth in agriculture further slowed down to 2.6 percent. Growth in the industrial activities slowed to 6.8 percent in 2016 from 8.9 percent in 2015, reflecting weaker performance in construction sector. In the first quarter of 2017, manufacturing and mining maintained their annualized growth rate at 6.8 and 7.7 percent respectively, while construction contracted by 0.2 percent following the completion of large investment projects in 2016. Growth in services slowed down from 10.4 percent in 2015 to 7.4 percent in 2016 on the back of relatively weak growth in private consumption. The annualized growth rate in services in the first quarter of 2017 was 6 percent.

On the demand side, Rwanda saw a slowdown in growth rates of both consumption and investments in 2016. Growth in private consumption slowed as a result of depreciation of the exchange rate, while the government largely maintained the rate of growth in public consumption of recent years. Investment growth also slowed down, mostly as a result of slow growth in public investments as part of authorities' adjustment program and fiscal restraint for 2016 and 2017. In this context, the developments in 2016 and in the first months

of 2017 illustrated the large extent to which the growth in Rwanda depends on public investments. With respect to net exports, the volume growth in exports outperformed import growth but the trade balance continued to widen in 2016, albeit slower than in 2015. Data from the first quarter of 2017, however, indicate that the widening trend of external imbalances has been already reversed.

In terms of prices, Rwanda experienced inflationary pressures from multiple sources in 2016, including the supply shock from the drought that affected East Africa and the Horn, and the pass-through from exchange rate depreciation. Inflation, historically at low single digits, increased to 7.3 percent at the end of 2016 further climbing to 8.1 percent in February 2017 before slowing down to 4.8 percent in June 2017. Food prices that grew by double digits were the main drivers of high inflation registered in Rwanda between July 2016 and May 2017. Rural areas were more vulnerable to price pressures than urban areas because of a larger share of food items in the consumption basket.

The environment for monetary and fiscal policies in 2016 and in the first months of 2017 was affected by several factors including weaker global and regional growth, inflationary pressures, and the need for external adjustment stemming from widening external imbalances in previous years. The policy response consisted of a greater exchange rate flexibility that resulted in about 10 percent depreciation in 2016, fiscal restraint largely through controlling capital expenditures, and maintaining a stable monetary policy rate throughout most of 2016. These policies, supported by a new IMF program launched in mid-2016, helped to slow down the widening of external imbalances and return to a path of foreign exchange reserve accumulation.

Export prices for commodities recovered partly in the first quarter of 2017 helping traditional exports to somewhat reverse the negative trend of recent years. Performance of non-traditional exports remained strong in 2016 and in the first quarter of 2017. Tourism continued to perform strongly, both in 2016 and in the first quarter of 2017. As for imports, the growth rate in 2016 was subdued as part of the adjustment program while food imports remained strong, on the back of food shortages as a result of the drought.

Productivity and Structural Transformation Patterns

The growth slowdown of 2016 and 2017 driven by the drought, weak export prices and fiscal restraint to address growing external imbalances can be seen as a temporary phenomenon. At the same time, long-term productivity patterns examined in this report point to several factors that, if not addressed, may depress Rwanda's growth potential.

Structural transformation, characterised by an inter-sectoral movement of labour from subsistence agriculture mostly to the service sector, has been the main driver of growth since the early 2000s. The growth in productivity within economic sectors played a smaller role. Service sector has contributed to the growth in productivity as it absorbed labor from agriculture and most of the entrants to the job market. Within-sector productivity growth in non-tradable services was not high, highlighting the limits of these services in driving the long-term growth. While manufacturing sector demonstrated high productivity growth in recent years, it attracted a negligible fraction of the total increase in the labour force. Creating enabling environment for a greater labour absorption capacity in manufacturing, coupled with an improved productivity in agriculture, will be key for sustaining growth in the medium to long-term.

With respect to the patterns in total factor productivity (TFP), it appears that TFP growth has slowed recently with capital accumulation becoming the main driver of growth. In this context, the surge in public investment of 2013-2015 helped to maintain a high growth rate. The recent slowdown underscores the dependence of the economy on government-led investment. There is only limited scope to further increase public investment as it can lead to debt accumulation and thus cannot be sustainable in long-term. This highlights the importance of the more efficient use of available investment resources to underpin strong TFP and, ultimately, economic growth. For the private investment, evidence points that allocation of capital investment to housing, hotels and restaurants where the expected payoffs are yet to materialise could be one of the factors behind the slowdown in TFP growth. Going forward, creating conditions that encourage the private sector to channel investment resources to the tradable sector where the potential for productivity growth is high will be key for sustaining a high growth rate in long run.

Macroeconomic Outlook and Risks

The impact of fiscal restraint and supply shocks will be felt throughout 2017. As agriculture recovers during the year growth may be higher than in the first quarter of 2017 but still well below the historical average of around eight percent per annum. Tapering food price shock and a lower inflation would allow monetary policy to become more accommodative. The fiscal policy stance in the second half of 2017 will also be more expansionary. However, persistent external imbalances and elevated public debt will constrain the use of macroeconomic instruments in the medium term. In macroeconomic management, the authorities will be guided by the need to maintain adequate foreign exchange reserves and maintain Rwanda's status of low risk of debt distress.

Returning to a higher growth trajectory in 2018 is attainable, although there are risks. In the medium term, economic activity will benefit from the expected recovery of prices of traditional exports, including minerals, tea, and coffee. A more competitive exchange rate will support the non-traditional tradable activities under the “Made in Rwanda” initiative. On balance, the outlook in agriculture is positive, although adverse climatic events pose risks. Overall, medium to long term outlook will depend on the extent to which the private sector will move to invest in the tradable sectors with higher growth and productivity potential. Other risks to growth are associated with weak external environment, regional tensions, and regional security outlook.

Analysis of Export Sector Performance

From a very low base, Rwanda's exports have increased four-fold in the last decade from just US\$400 million in 2007 to US\$1.6 billion in 2016. Rwanda's exports are more diversified with the growth of services, re-exports and small-scale cross-border trade. Exports to the region, and especially to the DRC and to the EAC countries, mainly as re-exports and through small-scale cross-border trade contributed the bulk of export growth for Rwanda. However, non-tariff barriers including cumbersome customs procedures, export bans and roadblocks continue to impede the growth of intra-regional trade.

Traditional agricultural exports – tea, coffee, and minerals – are still important export earners but overall performance has been mixed in recent years. Traditional exports currently generate less than half of the total exports earnings, while a decade ago Rwanda's exports exclusively consisted of these traditional goods. Export volumes of coffee have been stagnant while the volume of tea production has nearly doubled, although with muted economic impact given low value addition. Declining prices and low production of traditional minerals has also substantially affected export earnings.

Non-traditional merchandise exports have emerged in Rwanda, offsetting mixed performance of traditional sectors. Other minerals, agriculture, and manufacturing, that generated only US\$4 million in 2004 reached US\$155 million in 2016. Re-exports and small-scale exports mainly to DRC and to the EAC region also made a substantial contribution to export growth. Although re-exports do not generate substantial value added and jobs, they enable local clusters of economic activity that can be built upon.

Services exports are concentrated in traditional sectors of tourism and transport but exports in high-productivity ICT and financial services have started. Continued efforts to diversify tourism products will help to reduce the risk of over-dependence on traditional tourism which currently accounts for 29 percent of total exports.

Firm-level analysis of exporters in Rwanda reveals that the number of exporters has increased but the size of exporting firms is smaller than those in regional peer countries. Exports are concentrated in a few exporters but such concentration is similar to the levels found in countries with the same level of development. Rwandan exporting firms are on average less diversified, both in terms of the number of exported products as well as the number of destination markets. Over 50 percent of exporting firms export only a single product to a single destination. The majority of firms serve only the regional-market (EAC and DRC) and the average value of exports per exporter to regional markets is much smaller than that of firms who export to the rest of the world.

The challenges of small exporting firms are survival and growth in the export markets. There is a high degree of churning of firms with high entry and exit rates. Exporting firms that import intermediate inputs are on average more diversified in terms of both export product as well as destinations than pure exporters.

This emphasizes the need for continued efforts to reduce barriers to imports and improve trade logistics. For Rwanda, facilitating imports of inputs, including through effective management of exchange rate policy, is a key element in promoting export diversification. The analysis also reveals that growth of exports is driven by incumbent firms that have managed to proceed past the initial survival stage. This suggests that measures that assist new exporters to survive will have longer-term pay-offs in terms of greater export growth.

This update also highlights several policy considerations that are important for ensuring sustained export growth:

- Maintain a competitive real exchange rate by avoiding exchange rate misalignment to encourage investments in tradable sectors.
- Facilitate access to affordable and reliable inputs and raw materials using measures such as the Duty Remission Scheme under the EAC Common External Tariff.
- Focus on agriculture as a strategic sector that provides raw materials for emerging agribusiness, an important source of future export growth with strong impacts on poverty reduction.
- Continue to engage at the regional level to identify and remove non-tariff barriers within the EAC region.
- Improve trade logistics through needs-based infrastructure development, stronger institutional coordination and capacity building of logistics service providers
- Implement programs to reduce variable costs related on exporting with emphasis on SMEs and large exporting firms.
- Continue to implement measures that make Rwanda attractive as a location for FDI that is seeking to exploit opportunities for goods and services in the regional market as well as under the EBA and AGOA trade preference schemes.

PART ONE

RECENT MACROECONOMIC DEVELOPMENTS AND PRODUCTIVITY PATTERNS

This section presents recent macroeconomic developments covering 2016 and the first quarter of 2017. It also discusses longer-term productivity and structural transformation patterns in Rwanda deriving lessons for sustaining a high growth. The section also presents Rwanda's near to medium term macroeconomic outlook and discusses main risks.



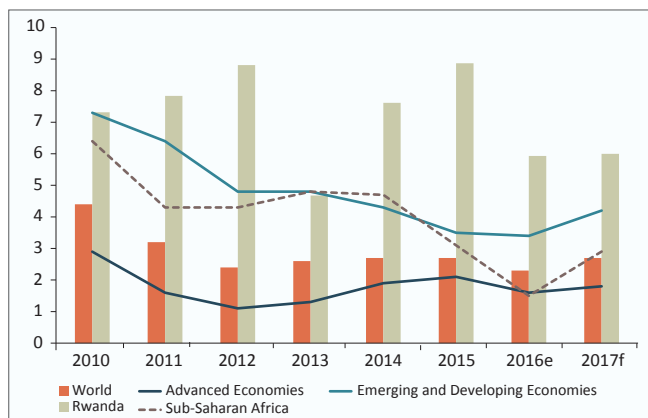
1.1 Macroeconomic Developments in 2016 and 2017

The Global and Regional Context

Global economic activity decelerated in 2016 to an estimated 2.3 percent growth, its worst outcome since the global financial crisis. Economic activity in advanced economies has been sluggish in the context of increased uncertainty about policy direction, tepid investment, and slow productivity growth (Figure 1). Growth in advanced economies is estimated to an average rate of 1.6 percent in 2016, down from 2.1 percent in 2015. This has been accompanied by soft imports, which have weighed down trade flows to their weakest pace since the global financial crisis. Combined with historically low levels of commodity prices, this has depressed exports from emerging countries. Growth was particularly disappointing in commodity exporters, estimated at 0.3 percent in 2016, marking a second consecutive year with a growth rate below 1 percent.

Growth in Sub-Saharan Africa (SSA) has decelerated to 1.3 percent in 2016, down from 3.1 percent in 2015. This is the lowest growth over the last two decades and marks the second

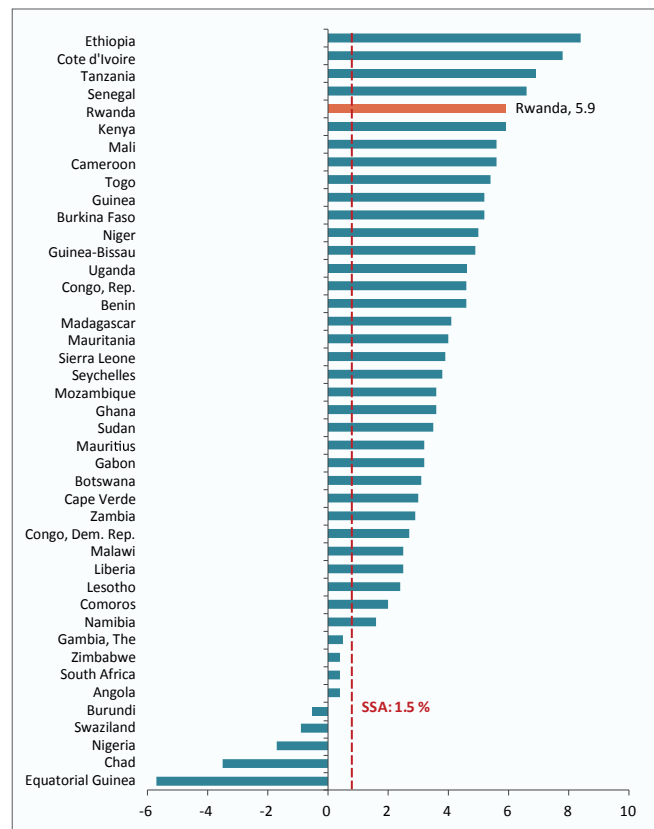
Figure 1: Rwanda's growth exceeds global and regional growth rates (GDP growth, percent)



Source: NISR, World Bank's Global Economic Prospects (January 2017)

consecutive year of growth deceleration (Figure 1). Low economic growth in SSA was driven by a slowdown in its largest economies — Nigeria and South Africa — which together account for 50 percent of the regional output. The regional GDP per capita in real terms has contracted in 2016. Low commodity prices and tight financial conditions, exacerbated by domestic headwinds arising from policy uncertainty, adverse weather conditions, and political and security concerns, continued to weigh on activity in the region. Oil exporters continued to struggle while growth in Rwanda, Ethiopia, Kenya and Tanzania in East Africa and Côte d'Ivoire and Senegal in West Africa, remained solid in 2016 (Figure 2), supported by strong public infrastructure investment and buoyant private consumption.

Figure 2: In 2016, Rwanda's economy was among the highest growing in (Year-on-year growth)



Source: World Bank's Global Economic Prospects (January 2017)

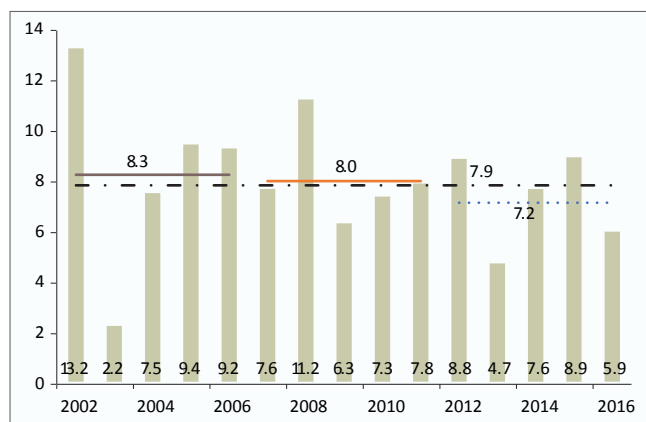
¹ World Bank. (2016). Africa's Pulse: An analysis of issues shaping Africa's economic future. Washington: World Bank (<https://openknowledge.worldbank.org/bitstream/handle/10986/25097/108582.pdf?sequence=7&isAllowed=y>)

Global economic growth is expected to pick up to 2.7 percent, led by emerging and developing economies. Activity in advanced economies is gradually strengthening and is expected to grow at 1.9 percent (Figure 1). Economic recovery in advanced economies, albeit relatively slow, has already led to some recovery in commodity prices. The price of crude oil, for example, has strengthened in the first four months of 2017, averaging nearly US\$53 per barrel. In parallel, metal prices have made some gains on stronger demand from China, while agricultural prices have been broadly stable. As domestic challenges recede in several large commodity exporters, together with the recovery in commodity prices, emerging and developing economies will lead the rebound in global growth, with output expected to climb as much as 4.2 percent in 2017.

SSA's outlook for 2017 and beyond is only slightly favourable. Overall, growth in Sub-Saharan Africa is forecast to recover to 2.9 percent in 2017 before rising above 3.5 percent by 2018. There are downside risks to this outlook, both externally and domestically. Despite a recent modest uptick, commodity prices are expected to remain subdued. Domestically, policymakers may not enact the reforms needed to rebuild fiscal buffers. Addressing fiscal vulnerabilities and bolstering per capita growth remain key policy challenges in the region.

Rwanda experienced solid economic growth over the last two decades. In 2002-2016, the economy expanded at an annual average rate of 7.8 percent (Figure 3), well above the average for all Sub-Saharan African countries. Recent GDP re-basing exercise showed that the growth rates in 2014 and 2015 in Rwanda were higher than previously thought (Box 1).

Figure 3: Rwanda's medium and long term economic growth (GDP change, percent)



Source: NISR, World Bank staff calculations

More recently, the growth has been decelerating. The average growth of 7.2 percent in the last five years was lower than the two preceding five-year periods (8.3 percent in 2002-2006 and 8.0 percent in 2007-2011). This is hardly surprising; some growth moderation is in order in low-income countries such as Rwanda that experienced a strong “catch-up” growth.

Output

Key Points:

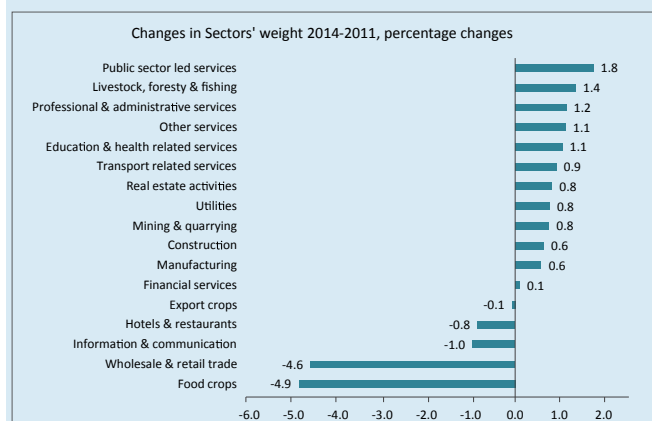
- ✓ The growth in 2014 and 2015 was substantially higher than previously thought.
- ✓ Growth in 2016 remained strong by global and regional standards but it decelerated markedly compared to 2015.
- ✓ Fiscal tightening and adverse weather conditions affecting agricultural output drove the slowdown.
- ✓ Rwanda embarked on an IMF program in 2016 to address growing external imbalances.

Box 1: Rebasing Rwanda's national accounts

The National Institute of Statistics on Rwanda (NISR) uses the United Nations' System of National Accounts (2008) guidelines in compiling Rwanda's national accounts. In the last five years, NISR has carried out two rebasing exercises following the recent Integrated Household Living Conditions Survey. The purpose of the economic rebasing of early 2017, which involved changing the base year from 2011 to 2014, was to update the production structure, align structural changes in relative prices of various products with consumption patterns, utilisation, and acquisition of capital goods. The exercise has given the opportunity to improve the methods and indicators used to extrapolate the base levels. For example, NISR's Seasonal Agricultural Surveys introduced in 2014 has greatly affected the structure of economy – something the national account at 2011-base year did not capture well.

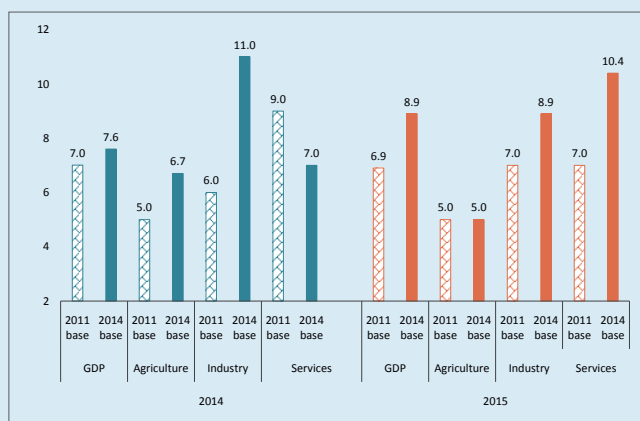
Food crops, trade, and public sector related services accounted for most of the change in Rwanda's production structure due to rebasing (Figure 4). The share of food crops in domestic output decreased from 22.0 percent to 17.1 percent, while the overall share of agriculture declined from 32.3 percent to 28.8 percent. Industry's share increased from 14.4 percent to 17.2 percent. The most negatively and positively affected services are respectively trade services and government led services, i.e. public administration and defence, compulsory social security. Among other major changes were the decline in the share of wholesale and retail trade, and the increase of the share of government led services. As a result of the rebasing exercise, the growth rates of 2014 and 2015 were also revised. (Figure 5)

Figure 4: GDP Rebasing changed the weight of Sectors ...



Source: NISR, World Bank staff calculations

Figure 5: ... and growth rates over 2014-2015



Source: NISR, World Bank staff calculations

Rwanda's growth of past five years was also affected by such adverse factors as the 2012 aid crisis and lower prices of its traditional export items, such as tea, coffee, and minerals. This highlights Rwanda's dependence on external flows, a key feature of its growth model, as the main vulnerability in the evolving global and regional context.

In 2016 and in the first quarter of 2017, both domestic and international environment were

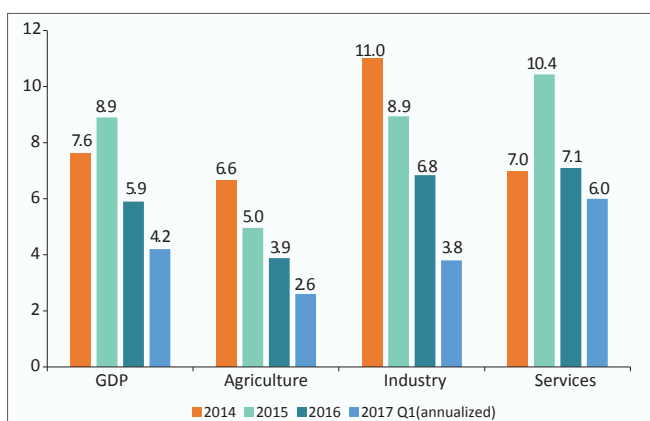
challenging for the economy. Domestically, food production was hit by droughts, which led to supply shortages and mounting inflationary pressures. On the external front, export prices remained subdued, putting pressure on Rwanda's balance of payments and foreign exchange reserves. The fact that Rwanda implemented large public investments in strategic infrastructure in 2014 and 2015, which had high import content, further exacerbated the pressures on the balance of payments.

In mid-2016, the Government moved quickly to address growing imbalances by a policy adjustment program supported by an IMF 18-month Standby Credit Facility. The program focuses on muting import demand through a greater exchange rate flexibility and fiscal restraint, as well as on supporting reforms to bolster Rwanda's external position in the medium term. Fiscal tightening aimed at reducing external vulnerabilities and improving the foundations for growth, contributed to the temporary growth slowdown through decelerating credit and private consumption growth while at the same time reversing the trend of growing external vulnerabilities. The combined effect of weak external environment, completion of large public investment projects, droughts and policy adjustments, reduced growth to 5.9 percent in 2016, three percentage points lower than in 2015.

Production Account

In 2016 and in the first quarter of 2017, growth moderated across all across sectors. Agriculture, which accounts for nearly 30 percent of GDP, grew by 3.9 percent in 2016, down from 5.0 percent in 2015, reflecting unfavourable weather conditions in 2016 (Figure 6). Growth slowed down further to 2.6 percent in annualized terms in the first quarter of 2017. Growth in the industrial activities slowed to 6.8 percent in 2016 from 8.9 percent in 2015, reflecting weaker performance in construction

Figure 6: A broad-based slowdown in growth was observed across sectors (Year-on-year growth, percent)



Source: NISR, World Bank staff calculation

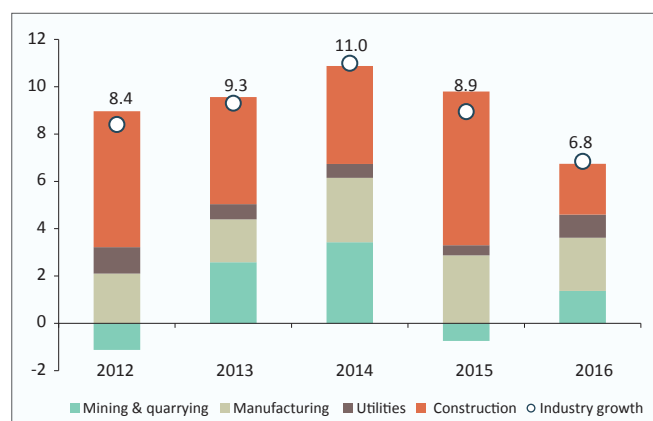
activities. Weak construction activities further brought the industrial sector growth down in the first quarter of 2017 to 3.8 percent. Growth in services slowed down from 10.4 percent in 2015 to 7.4 percent in 2016, and further to a 6 percent in the first quarter of 2017. Despite this, the services remained the single biggest contributor to GDP growth in 2016.

The growth in the service sector was uneven, with hospitality as the fastest growing service sub-sector. Hotel and restaurant related services grew by 10.5 percent in 2016 that follows similarly strong growth in 2015 at 9.4 percent. This was supported by continuing increase in the number of tourists: over 1.4 million arrivals in 2016 constituting a growth of 10 percent. Interestingly, the number of park visitors in 2016 grew by more than 20 percent. This growth was supported by government's efforts to expand the capacity in the sector through concerted public and private investments in the recent years. Growth in other services was slower than in the previous year. Wholesale and retail trade services grew by 6.3 percent in 2016, down from 12.7 percent in 2015. Growth in financial and information & communication subsectors slid to 3.4 and 8.5 percent, respectively, down from very impressive 12.6 and 17.5 percent in 2015. The slowdown in financial services could be attributed to the weak credit growth in 2016. Growth in administrative and professional services has also decelerated to 9.8 percent and 6.1 percent respectively, down from 16.3 percent and 12.7 percent in 2015.

The 2016 industrial growth was the lowest in the recent years, largely due to decelerating construction activities. Construction, which accounts for more than 40 percent of the industrial output, slowed substantially to 4.9 percent in 2016, down from 15.6 percent in 2015 (Figure 7). This mostly reflects the completion of several large investment projects (Kigali Convention Center, Marriott, etc). This slowdown was also reflected

in the imports of construction materials. Growth in the manufacturing output decelerated to 6.6 percent in 2016, down from 8.4 percent in 2015. On the back of a partial recovery in export prices for the minerals that Rwanda exports, the contraction of the mining sector in 2015 was reversed, and the sector grew by 10.0 percent in 2016.

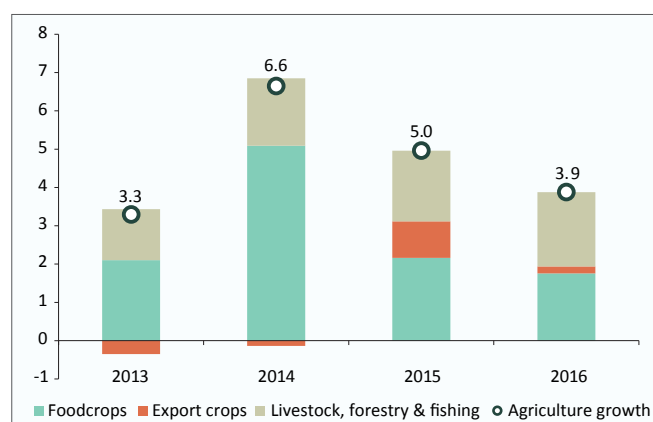
Figure 7: Growth in the industrial sector
(Contribution to industrial growth, percentage points)



Source: NISR, World Bank staff calculation

Agricultural growth was the slowest among the main economic sectors in 2016. It has decelerated to 3.9 percent, compared to a 5 percent growth in 2015 (Figure 8). Season B of 2016 has been the hardest hit, with production volumes falling by 6.9 percent, after a 0.4 percent drop in 2015. Vegetables, tubers and roots were the most affected. This was somewhat offset by a fair production harvest in seasons A and C. Overall,

Figure 8: Agricultural growth moderated in 2016
(Contribution to agriculture growth, percentage points)



Source: NISR, World Bank staff calculation

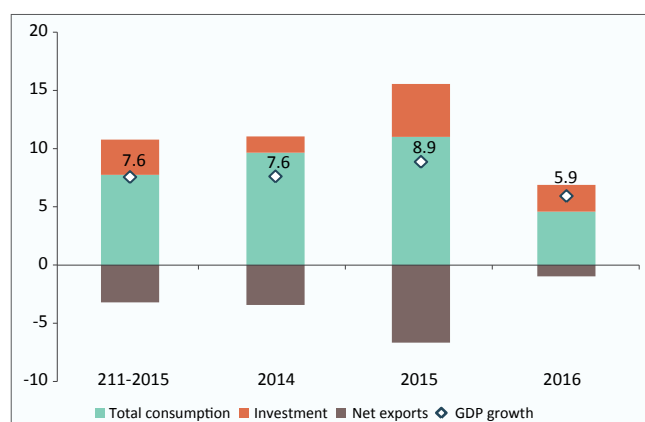
the annual production volume fell by 1 percent putting a pressure on food prices in the second half of 2016. Food crops grew by 3.0 percent in 2016, lower than 3.6 percent in 2015. Export crops grew only 2.4 percent in 2016, down from an impressive growth rate of 14 percent in 2015. Rwanda's smallholder based agriculture continues to rely heavily on rain-fed production, with only a small fraction of farmers using irrigation. This highlights the importance of further increasing the resilience and growth prospects of the sector through investments, knowledge transfer, and innovations.

Demand side of GDP

Consumption growth substantially slowed down in 2016 and in the first quarter of 2017.

Total consumption growth has moderated to 4.8 percent in 2016, down from double-digit rates of past two years driven by weak growth in private consumption (Figure 9). In the first quarter of 2017 consumption grew only 3.4 percent. Depreciation of the currency and slowing credit growth were the main factors slowing down the growth in consumption. Government consumption, however, grew at 9.1 percent in FY 2015/16, which is in line with the growth rate of 2011-2015. The ratio of current expenditures to GDP that increased by 0.8 percentage points reaching 15.2 percent of GDP in FY2015/16.

Figure 9: GDP by expenditures
(Contribution to GDP growth, year-on-year, percent)

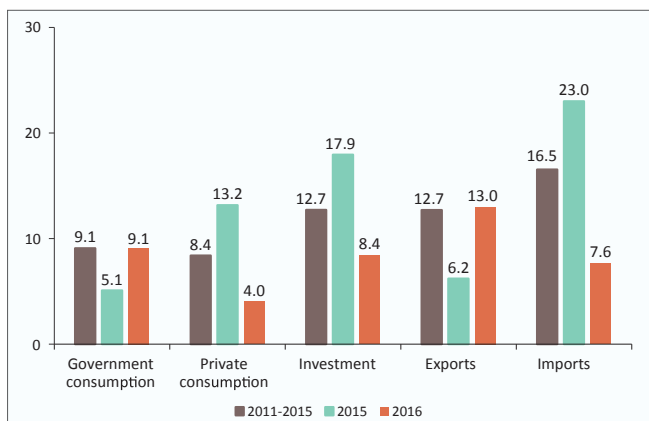


Source: NISR, World Bank staff calculation

In 2016, investments grew at 8.4 percent, down from 17.9 percent in 2015. This downturn was largely due to the slowdown in construction investments, which grew at 2.6 percent, a rate that is less than one-fifth of the rate of 14.4 percent observed in 2011-2015. The aggregate contribution of investments to GDP growth slid to 2.3 percent in 2016, down from 4.5 percent in 2015. The growth rate in non-construction investments remained strong in 2016, growing at 23.7 percent versus 26.6 percent of 2015, and an average of 10.5 percent observed in 2011-2015. In annualized terms, investment declined 1.8 percent in the first quarter of 2017.

Although net exports² continued to be negative, their pull-on growth declined in 2016 (Figure 10). Net exports contributed 1.0 percentage point to GDP) in 2016, which is significantly less than - 6.7 percentage points in 2015. In real terms (import volumes), the imports declined by 7.6 percent on the back of a contraction in intermediary goods and energy-related products amid weak construction activities. Exports volumes, in contrast, grew by 13.0 percent in 2016 compared to 6.2 percent in 2015. This was entirely due to a strong growth in goods exports of 10.2 percent in 2016, reversing the negative trend of

Figure 10: Export growth in real terms outpaced imports growth (Annual growth rate)



Source: NISR, World Bank staff calculation

² Exports minus Imports.

³ <http://www.doingbusiness.org/Methodology/Methodology-Note>

2014-2015. A decline in imports growth, together with a double-digit growth in real exports, has slowed down the trend of the rapid widening of the trade deficit. The situation in the first quarter of 2017 improved further, with high growth in both volumes and values of exports on the back of stronger mineral prices and non-traditional exports, while imports remained subdued.

Business Environment

Under a new standardised methodology,³ Rwanda moved up from 56th position in the world in ease of doing business to 54th in 2017.

According to the Doing Business 2017, Rwanda, which ranks second in Africa in Doing Business 2017, exemplifies an economy that used Doing Business as a guide to improve its business environment. Rwanda is among countries that have established regulatory reform committees to ensure the coordination of efforts across agencies. Doing Business shows that from 2005 to 2017, Rwanda implemented 47 reforms across all indicators. Rwanda is one of only 10 economies that have implemented reforms in all of the Doing Business indicators and every year since Doing Business 2006.

In Doing Business 2017, Rwanda made improvement in five indicators among ten reforms (Annex Table A2). Rwanda continued its reforms making it easier to start a business by fully operationalizing an electronic portal that combines company registration, information on tax obligations and duties and value added tax registration. Among the 190 economies included in Doing Business, Rwanda made the largest improvement on the registering property indicators in 2015/16. The Rwanda Natural Resources Authority introduced a fast track procedure for commercial property transfers and improved the transparency of the land registry by establishing a land administration services

complaints mechanism as well as by publishing statistics on property transfers. In terms of trading across borders, the government removed the mandatory pre-shipment inspection for imported products, and in enforcing contracts, it introduced the Integrated Electronic Case Management, a web-based application that integrates five main institutions of the justice sector, which, in turn, allows for the automatic registration of lawsuits, electronic organisation and scheduling of cases and automated claims processing. The system is expected to result in considerable cost and time savings along with increased transparency and to provide more reliable statistical data on court operations.

Nevertheless, some of the gains Rwanda had made in the acquisition of construction permits and in paying taxes may have been reversed.

Recent introductions of new requirements to obtain a building permit has made it cumbersome to deal with construction permits while the requirement that companies file and pay social security contributions monthly instead of quarterly is deemed to have complicated paying taxes in Rwanda.

2016 was characterised by strong financial flows to Rwanda that helped to cover widening trade

and current account balances (Table 1). The current account deficit continued to widen, from 13.4 percent in 2015 to 14.4 percent in 2016, on the back of growing trade imbalances and declining official transfers. Without official transfers, the current account deficit widened from 17.8 percent of GDP to 18.5 percent. The widening current account deficit was mainly financed by public sector borrowing and increased FDIs, while IMF's 18-month Standby Credit Facility helped to supplement the foreign exchange reserves.

The negative balance of goods and services continued to widen (Table 1).

Although export growth has outpaced import growth in 2016, the trade deficit reached 15.5 percent of GDP in 2016 from 14.9 percent of the previous year. Export values (in US dollar terms) grew 9.0 percent to US\$745 million (8.9 percent of GDP), boosted mainly by non-traditional exports. In US dollar terms, imports increased by 6.6 percent, reaching US\$2,045 million (24.3 percent of GDP). The level of current transfers continued to decline mainly driven by official current transfers that declined steadily from 11.7 percent of GDP in 2011 to 4.1 percent of GDP in 2016. The balances of services and income account also deteriorated from -4.9 percent of GDP in 2015 to -5.2 percent of GDP in 2016.

External Sector

Key Points:

- ✓ Rwanda's current account deficit continued to widen in 2016, albeit with a slower pace than in the previous two years.
- ✓ Although exports grew faster than imports, the negative trade balance slightly widened.
- ✓ The growth in exports was driven by a strong performance in non-traditional export products, as export earnings from Rwanda's traditional products remained weak.
- ✓ The first quarter of 2017 showed substantial improvement in the trade balance.

Table 1: Rwanda's balance of payments

	2012	2013	2014	2015	2016 Prel.	2012	2013	2014	2015	2016 Prel.
	US\$ million					Percent of GDP				
Trade balance	-1,376.2	-1,148.4	-1,267.1	-1,235.0	-1,300.1	-19.1	-15.1	-15.8	-14.9	-15.5
Exports (f.o.b.)	590.8	703.0	723.1	683.7	745.0	8.2	9.2	9.0	8.3	8.9
Imports (f.o.b.)	1,967.0	1,851.5	1,990.2	1,918.7	2,045.1	27.2	24.3	24.8	23.2	24.3
Services and income (net)	-159.0	-254.2	-252.9	-407.4	-435.2	-2.2	-3.3	-3.2	-4.9	-5.2
Services (net)	-85.2	-122.4	-77.3	-192.5	-211.1	-1.2	-1.6	-1.0	-2.3	-2.5
Income (net)	-73.8	-131.8	-175.6	-214.9	-224.1	-1.0	-1.7	-2.2	-2.6	-2.7
Current transfers (net)	722.5	741.0	578.0	536.0	524.3	10.0	9.7	7.2	6.5	6.2
Current account balance										
Excluding official transfers	-1,352.3	-1,221.2	-1,340.1	-1,476.5	-1,554.9	-18.7	-16.0	-16.7	-17.8	-18.5
Including official transfers	-812.8	-661.6	-942.0	-1,106.4	-1,211.0	-11.3	-8.7	-11.8	-13.4	-14.4
Capital and financial account balance	680.6	895.8	985.8	951.6	1,146.4	9.4	11.8	12.3	11.5	13.6
Capital account	171.2	234.5	337.1	299.9	190.0	2.4	3.1	4.2	3.6	2.3
Financial account	509.3	661.3	648.8	651.7	956.4	7.1	8.7	8.1	7.9	11.4
Overall balance	-200.9	223.6	-116.4	-24.0	-8.5	-2.8	2.9	-1.5	-0.3	-0.1

Source: BNR, World Bank staff calculations

Exports expansion was driven by booming non-traditional exports. The value of non-traditional exports increased by nearly 30 percent in 2016 compared to 9.2 percent increase in 2015. Another driver of exports growth was re-exports. In 2016, the value of exports increased by 26 percent, while re-exported volume increased by more than 40 percent. This increase was, mainly driven by petroleum products and machinery re-exported to Democratic Republic of Congo and Burundi. Over the 2011-2016 period, the share of re-exports has gradually risen from less than 10 percent to about 38 percent of total exports highlighting Rwanda's role in the regional trade and country's potential to develop trade-related services.

Meanwhile, the poor performance of Rwanda's traditional mineral exports continued in 2016.⁴ Their share in 2016 stood at 14 percent of total

exports, down from an average of 32 percent in the previous ten-year period (Annex Table A). Weak global demand and low prices are affecting Rwanda's exports of minerals. For example, the export of Coltan, which had become the single-largest export item in 2011-2015, declined from US\$134 million (23.5 percent of total exports) to about US\$40 million (6.6 percent of total exports) between 2013 and 2016. In 2016, its average price stood at almost 50 percent of the 2013 levels. Export values of Wolfram declined by 31.5 percent in 2016 and stood at less than a half of the 2013 levels. Tin exports increased by 1.6 percent in 2016, because of a rise in international tin prices. However, there has been some recovery in the prices in the last quarter of 2016 that was sustained in the first months of 2017, improving the outlook of export performance for 2017⁵.

⁴ Tin, Coltan and wolfram.

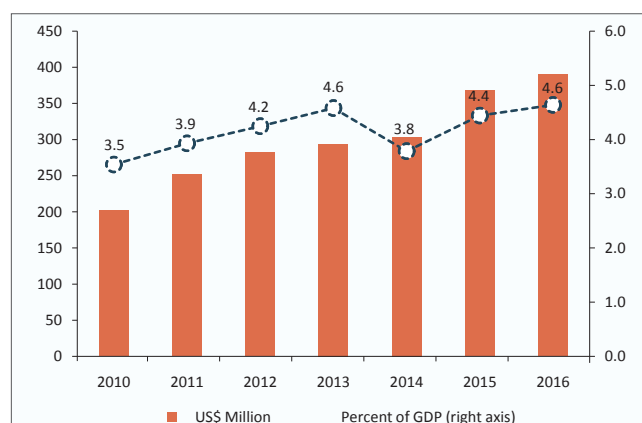
⁵ World Bank's Commodity Markets Outlook of January 2017, <http://pubdocs.worldbank.org/en/820161485188875433/CMO-January-2017-Full-Report.pdf>

Rwanda's export crops remain vulnerable to price volatility. Over the last five years, the share of traditional export crops, coffee and tea, declined from more than 35 percent of total good exported in 2011 to 20 percent in 2016. This decline largely reflected volatility in their international prices, which were at their lowest since 2013 (Annex Table A). The average price of coffee has declined 4.9 percent in 2016, after an 11.6 percent drop in 2015. Regarding tea, its average price declined by 11.5 percent in 2016, following a sizeable drop in tea price at the Mombasa Auction. These have also affected their export earnings. Part II of this reports focuses on in-depth analysis of Rwanda's exports and their economic implications.

Tourism continues to be the leading earner of foreign exchange. Tourism receipts have increased by 4.6 percent to about US\$390 million in 2016 (4.6 percent of GDP), generating more income than the combined value of tea, coffee, and mineral exports (Figure 11). This increase was driven mainly by continuing increase in the number of tourists to Rwanda that reached over 1.4 million arrivals in 2016 constituting a growth of 10 percent.

Rwanda's import bill rose in 2016. The value of imports grew 6.6 percent in 2016 in spite of the decline in volumes, but the growth rate was less than the average growth rate of 17.1 percent in 2011-2015. Meanwhile, consumer goods imports

Figure 11: Tourism receipts continued to edge up



Source: Rwanda Development Board (RBD), World Bank staff calculations

expanded by 4.9 percent in value. Food products, which constitutes 40 percent of the consumer bill, drove the bulk of increases in consumer goods imports, especially in the second half of 2016, following the weak harvest in Rwanda in season B. Imports of capital goods increased by 9.3 percent.

In 2016, imports of intermediate goods and energy-related products contracted by 16.6 percent. This was driven largely by a fall in imports of construction materials of 27.4 percent, which reflects completion of large investment projects in mid-2016, as well as the increase in domestic production of cement. The other declining import category in dollar terms was energy products, although import volumes were almost unchanged, at 310 thousand tonnes, reflecting lower international prices in 2016.

Monetary Policy and Financial Sector Developments

Key Points:

- ✓ The environment for monetary policy characterised by a combination of a growth slowdown, inflation pressures and external imbalances was very challenging in 2016.
- ✓ Inflation has remained high largely because of the drought; the pass-through from exchange rate depreciation also played a role.
- ✓ Credit growth sharply decelerated in 2016.

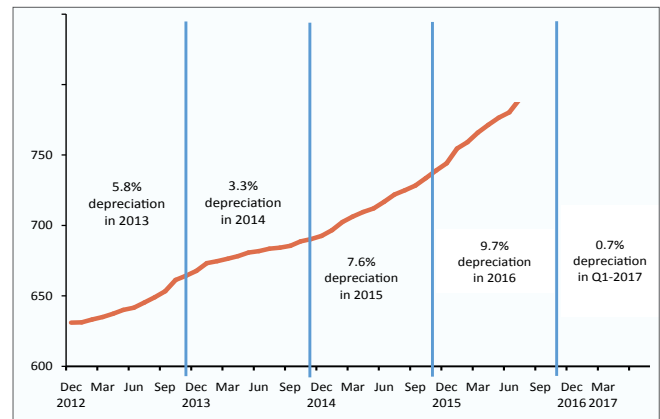
The environment for monetary policy implementation was very challenging in 2016.

Monetary authorities faced trade-offs between various policy objectives. As a result of a greater exchange rate flexibility needed to address Rwanda's external imbalances, the exchange rate continued to depreciate throughout the year. Its impact on consumer prices were augmented by the supply side pressures on food prices because of the drought. At the same time, the monetary tightening since mid-2015 slowed down credit growth affecting the growth objective. In a balancing act, the National Bank maintained the policy rate unchanged throughout the year but marked it down by 0.25 percentage points in December to help to reverse the decline in credit growth. The fact that the spike in inflation was largely driven by supply shocks and was expected to be transitory was an important consideration.

Depreciation of the Rwf continued throughout the year but somewhat eased as the year came to a close. After a 7.6 percent depreciation in 2015, the Rwf depreciated by 9.7 percent against the US dollar in 2016 (Figure 12). The Rwf has also depreciated against currencies of its main trading partners in EAC countries. Both Real Effective Exchange Rate (REER) and Nominal Effective Exchange Rate (NEER) depreciated in 2016 by 3.4 and 7.5 percent respectively (Figure 13)⁶. The depreciation decelerated towards the end of the year, while in the first months of 2017 the exchange rate against US dollar remained relatively stable. The greater flexibility of the exchange rate that the authorities embarked on since 2015 served its policy purpose very well by reducing the pressures on foreign reserves, reversing the trend

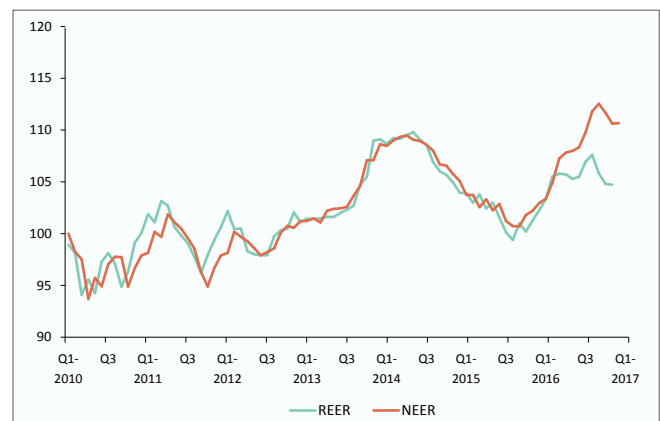
of widening external imbalances and boosting Rwanda's competitiveness through a favourable adjustment in the real exchange rate.

Figure 12: The depreciation of the Rwf gathered pace in 2016 (Rwf/US\$)



Source: BNR, World Bank staff calculation

Figure 13: Rwanda's currency, expressed in REER and NEER, also depreciated in 2015 (Q12010=100)



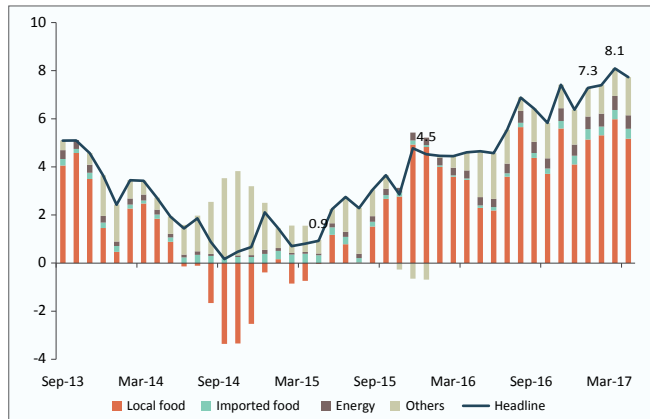
Source: BNR, World Bank staff calculation

Inflation pressures mounted throughout 2016 (Figure 14).

A combination of supply shocks from the drought and the pass-through from exchange rate depreciation resulted in a 7.3 percent end-of-year inflation in 2016, very high compared to Rwanda's track-record. The annual average

⁶ The NEER measures the average change in a country's nominal exchange rate against a number of other currencies during a given period compared with a base year. Unlike the bilateral exchange rate, the NEER is an index, not the relative price of one currency with respect to another, weighted as an average of the exchange rates of a country with respect to its major trading partners' currencies and their trade weights. The REER is an important refinement of the NEER, calculated by adjusting its NEER for differences in inflation at home and abroad. Both indexes, REER and NEER, provide a measure of a country's export competitiveness: a rise in the index implies a fall in competitiveness. A country whose NEER and REER are depreciating is trading on worsening terms, as it costs that country more to buy goods and services from abroad.

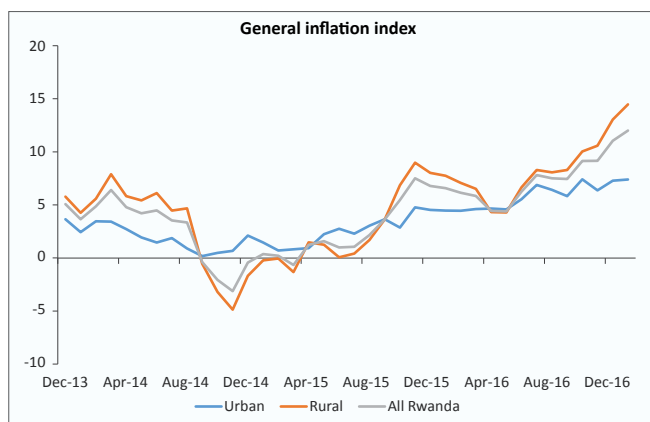
Figure 14: Rwanda's headline inflation accelerated in 2016 ...



Source: NISR, World Bank staff calculation

inflation was 5.7 percent compared to 2.5 percent in 2015. Inflation peaked at 8.2 percent in February 2017 before starting to slow down since March. Rural areas were more vulnerable to the pressures than urban areas because of a larger share of food items in the consumption basket (Figure 15). Imported inflation (8 percent in 2016) resulted from pass-through from exchange rate depreciation.

Figure 15: Rural vs. urban inflation



Source: NISR, World Bank staff calculation

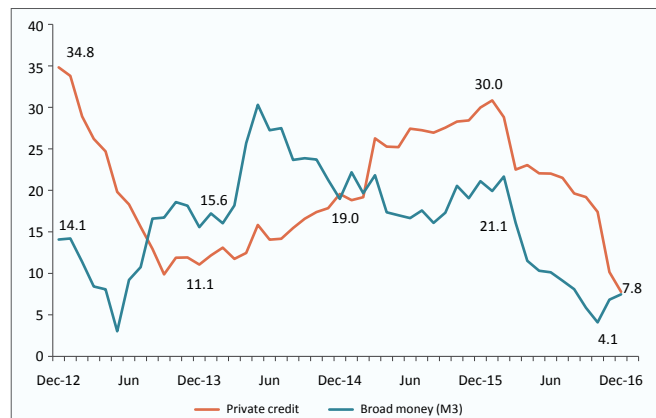
The level of international reserves strengthened in 2016 thanks to the external adjustment and IMF's Standby Credit Facility supporting the adjustment. Rwanda saw a reduction in foreign exchange reserves in 2015 and into 2016 as a result of declining export prices and large investment projects with substantial import components. The 18-month IMF Standby Credit

Facility in an amount of US\$204 million assisted the country in maintaining an optimal level of foreign reserves through providing foreign exchange and supporting policy adjustment including fiscal restraint and a greater exchange rate depreciation.

Credit growth decelerated from 30 percent in 2015 to around 8 percent in 2016 (Figure 16).

The sharp decline in the new loans, especially to construction, drove the trend. In 2016, the amount of the new loans to public works and building decreased by 17.8 percent, compared to an average of 60 percent increase in the previous two years. The fall in new construction loans was also reflected in decelerated growth of construction output. The slow growth in broad money of 7.5 percent in 2016 reflected the sluggish credit growth in the economy.

Figure 16: Credit to the private sector sharply decelerated in 2016 (Year-on-year change, percent)



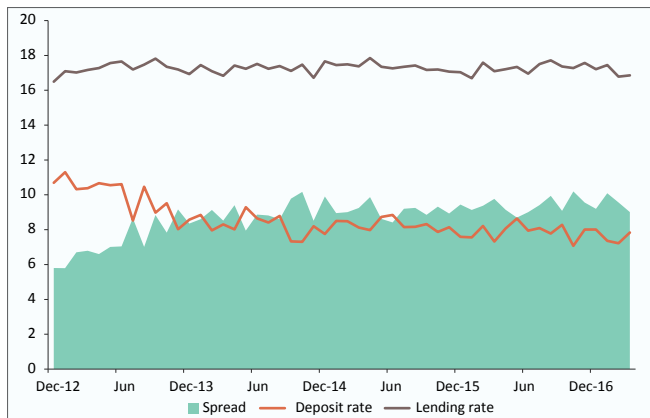
Source: BNR, World Bank staff calculation

Credit and deposit rates remained stable in 2016.

Bank lending rates were 17.2 percent, while deposit rates were 8 percent, with a high-interest rate spread (Figure 17). Despite a steady policy rate in 2016, the money market interest rates rose significantly after falling for three consecutive years (Figure 18). The annual averages of Treasury bill and interbank rates rose by around 3-percentage point amid larger issuances by the government during the year.

Treasury bills' stocks increased from Rwf222.3 billion in December 2015 to Rwf252.7 billion in July 2016, before declining to Rwf238.7 billion (about US\$291.3 million) in December 2016.

Figure 17: Lending and deposit rates relatively stable compared to money market rates



Source: BNR, World Bank staff calculation

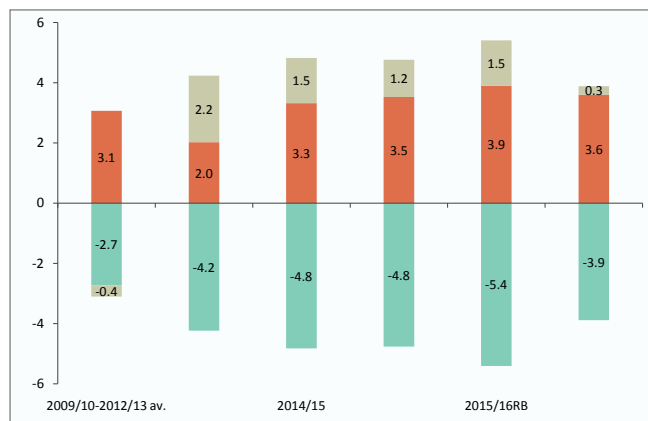
Figure 18: Money market interest rates increased in 2016 (Annual average changes, basis points)



Source: BNR, World Bank staff calculation

The budget deficit eased in the fiscal year of 2015/2016 (Figure 19). The overall fiscal deficit was 3.9 percent of GDP, less than the projected 5 percent of GDP in the government's revised budget.⁷ Solid revenue collections and under-spending in capital spending and net lending were the main drivers of lower than expected budget deficit. This fiscal stance reflected Government's key priority in macroeconomic management, which was aimed at restoring external balances and alleviating pressures on foreign exchange reserves. Like in recent years, the government continued to rely largely on foreign sources to finance the deficit. The deficit financing from foreign sources increased from 3.3 percent of GDP in 2014/15 to 3.6 percent in 2015/16.

Figure 19: Rwanda's fiscal deficit eased in FY2015/16



Source: MINECOFIN & IMF CR1708, World Bank staff calculation

Fiscal Sector Developments in Fiscal Year 2015/16

Key Points:

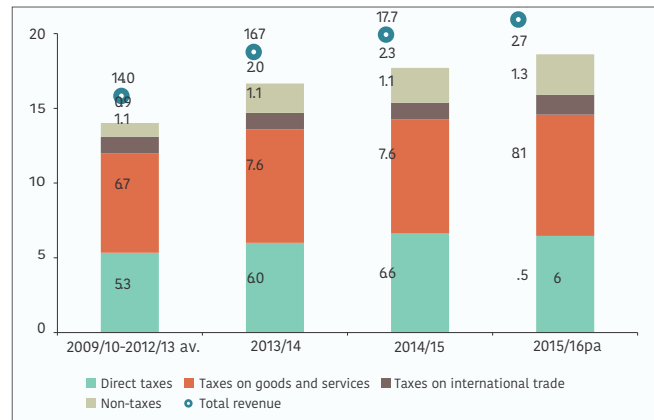
- ✓ The fiscal deficit eased in FY2015/2016 to well below the 5 percent projected in the government's revised budget.
- ✓ Domestic revenue collections increased beyond projections.
- ✓ Capital expenditures were slow in FY2015/2016.

⁷ http://www.minecofin.gov.rw/fileadmin/templates/documents/BUdget_Management_and_Reporting_Unit/Budget_Framework_Papers/2015-2016_Budget_Framework_Paper/2015-2016__Budget_Framework_Paper.pdf

Rwanda's public debt has been on an upward trajectory since 2013. PPG debt increased from around 37 percent of GDP in 2015 to 43 percent in 2016, mostly driven by external debt. This was not only driven by new debt contracted for deficit financing, but also by State-Owned Enterprises and publicly guaranteed debt. Domestic debt has been relatively stable since 2010, at around 9 percent of GDP (Chart on Debt). Despite the recent increase, public debt remains low, and the joint IMF/World Bank Debt Sustainability Assessment analysis of 2016 confirmed Rwanda's status of low risk of debt distress.

Domestic revenue continued to increase on the back of reforms in strengthening the tax administration. From 17.7 percent of GDP in the previous fiscal year, domestic revenue increased to 18.6 percent of GDP in FY2015/16 (Figure 20), exceeding the target by 12 percent. Overall, tax collection increased by 0.8 percentage point to 16.3 percent of GDP, registering 0.5 percentage points higher than the target in the Revenue Mobilisation Strategy (Box 2). This good performance was driven by taxes on goods and services, which increased by 0.5 percentage points to 8.1 percent of GDP. This increase is partly attributed to the continued deployment

Figure 20: There has been a steady improvement in revenue collection



Source: MINECOFIN, World Bank staff calculation

of electronic billing machines (EBMs). By June 2016, 11,436 VAT registered taxpayers had EBMs, with 13,238 machines activated, marking an increase of 30.8 percent from 9,162 active EBMs in June 2015.⁸ There has also been a slight increase in taxes on international trade and nontax revenues due to the new EAC-wide infrastructure levy and higher receipts from UN peacekeeping operations respectively. Performance, however, disappointed for direct taxes by 1 percentage point of GDP lower than the FY2014/15, reflecting the poor performance of mainly construction activities.

Box 2: 2015/16-2017/18 Revenue mobilisation strategy at a glance

As part of its on-going fiscal consolidation path, the authorities have adopted a 3-year strategic plan in line with the second Economic Development and Poverty Reduction Strategy (EDPRS 2) and Vision 2020, the country's two-development strategy.⁹

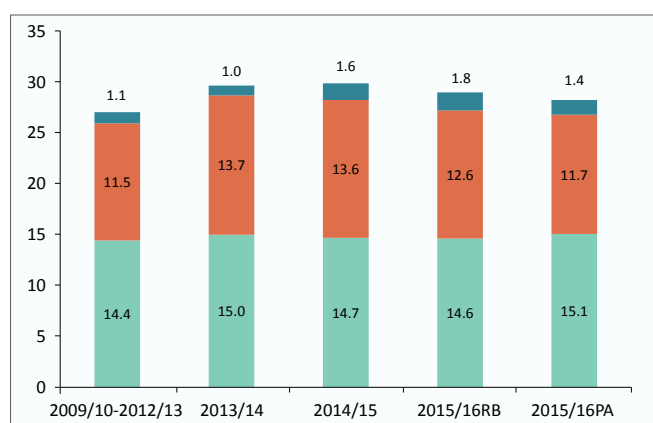
- **Key priorities:** (1) enhancing tax compliance; (2) improving VAT administration; (3) widening tax base; (4) improving provisions of taxpayer services; (5) strengthening internal capacity and coordination.
- **Key pillars:** (1) revenue administration; (2) tax audit and compliance; (3) review of tax laws and procedures
- **Target:** 0.3 percentage point of GDP increase per annum.
- **Policy reviews:** direct income tax, tax procedures, Rwanda Revenue Authority's organisational, functioning, and responsibility.

⁸ RRA (2016). Annual Activity Report 2015/16. http://www.rra.gov.rw/fileadmin/user_upload/rra_annualreport_2015-16_final.pdf

⁹ http://www.old.rra.gov.rw/IMG/pdf/rra_strategic_plan_2015-2018_for_publication.pdf

Public expenditures were lower than projected (Figure 21). Compared to 29 percent of GDP in the revised budget, total expenditure and net lending in FY2015/16 were about 28.3 percent of GDP, lower than in the previous two fiscal years. This reflects lower capital spending and under-spending in both capital expenditure and net lending by 0.9 and 0.3 percentage points of GDP, respectively. Partially offsetting this was an overspending of 0.5 percentage point of GDP in recurrent expenditure, mainly driven by spending for peacekeeping operations.

Figure 21: After peaking in 2013/14 the share of capital expenditure is declining



Source: MINECOFIN, World Bank staff calculation

FY2016/17 Budget and Preliminary Outturn

The FY2016/17 budget envisaged a further reduction of capital spending. In the revised budget, total expenditure and net lending are projected at 27.6 percent of GDP, less than in 2015/16. Capital expenditures will decline to 10.8 percent of GDP, the lowest level in recent years, and 0.9 percentage points lower than in the previous fiscal year.

Execution of the 2016/17 budget has been mixed as of March 2017 (Annex Table A). Total revenue and grants fell short of target by 0.1 percentage points of GDP. Tax revenues fell short by 0.2

percentage points of GDP due to weak indirect taxes. Non-tax revenues and grants slightly exceeded expectations but did not offset poor performance in tax collections. Lower spending under capital expenditure and net lending were offset by higher recurrent expenditures, and the fiscal deficit was slightly higher than projected.

1.2 Long-Term Productivity and Structural Transformation Patterns

Background

Rwanda's economy is an outstanding example of sustained high growth and poverty reduction over the long-term. Since 2000, the growth averaged almost 8 percent while per capita GDP growth was 5.6 percent. With a per capita GDP of around US\$1,800 dollars in 2015¹⁰, the country has substantially narrowed the gap with lower-middle income countries. Rwanda improved in ranking from the seventh poorest country in the world in 2000 to 20th in 2015. Four countries in SSA (Equatorial Guinea, Chad, Sudan, and Ghana) improved their relative income ranking more than Rwanda in that period but all of them did that on the back of oil and/or gas discoveries.

Large public investments and strengthened institutional capacity to improve service delivery were the main pillars of Rwanda's growth model. Aid-fuelled infrastructure spending and strong domestic demand accompanied by a shift of labour from subsistence agriculture to the service sector were the main features of Rwanda's growth experience. Public investments greatly improved Rwanda's infrastructure and service delivery, evidenced by a sizable improvement in the logistic index¹¹ and human development indicators.¹² At the same time the economy developed a dependence on public investments evidenced by a growth slowdown in 2016 after the introduction of fiscal restraint.

¹⁰ In International Dollars (PPP adjusted).

¹¹ Global Logistic Index.

¹² UNDP Human Development Indicator.

In addition to well-targeted public investments, business environment was the other important pillar of Rwanda's development strategy.

Rwanda ranks high in Doing Business. Governance, in general, is an area that saw substantial progress especially with respect to reducing corruption and improving governance effectiveness. These institutional underpinning played an important role in strengthening economy's supply response. In addition, Rwanda's reputation of a safe and well maintained country with abundant natural beauty and strong environmental preservation became an important factor in positioning the country as a high-end tourism, business meetings and convention destination.

Sustaining a high rate of growth in a long-term and transitioning into a higher income status requires both strong productivity growth in the sectors and allocation of resources from less productive to more productive sectors, a process known as a structural transformation.

These two factors combined determine the growth prospects in the long run. This section takes a longer term look at the productivity patterns in Rwanda. In doing this, we will look at two different measures of productivity – labor productivity and total factor productivity.

Labor Productivity Trends in 2005-2014

In the period between 2005 and 2014¹³, the total labour force increased by 22 percent, while GDP in constant factor prices almost doubled.

This suggests that 1.8 percentage points of total 7.8 percent annual increase in output in factor

prices in 2005-2014 came from increased labour force, while the remaining 6 percentage points were due to improved labour productivity. A disaggregation¹⁴ of labor productivity shows that almost 2/3 of overall improvement in labour productivity in the period between 2005 and 2014 came from an inter-sectoral shift in labour (or structural transformation), with remaining 1/3 driven by productivity growth within economic sectors. Within sector productivity growth was driven mostly by productivity gains in agriculture and manufacturing. There were also gains in service sectors including transport, communication, financial services and retail trade. The decline in labour productivity in mining, construction and hotels and restaurants negatively contributed to the overall productivity. (See Annex B).

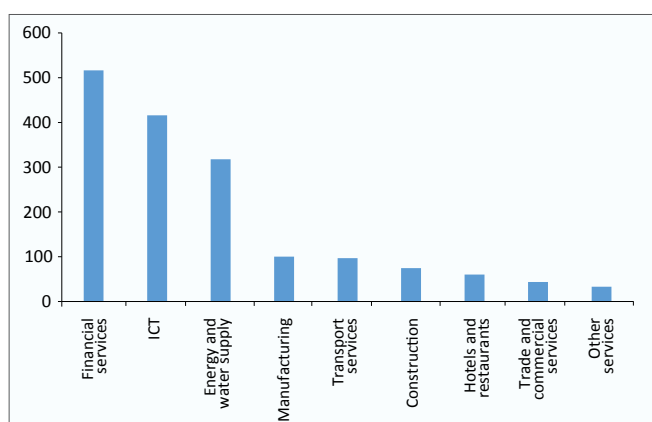
Although service sector has contributed to the growth in productivity as it absorbed labor from agriculture and most of the entrants to the job market, within-sector productivity growth in services as an aggregate was not very high, except financial services, transportation, communications and ICT. This highlights the limits of non-tradable services in driving the long-term growth. At the same time, while manufacturing sector demonstrated high productivity growth in recent years, it attracted only 34,000 new workers between 2005 and 2014, which is less than 1.5 percent of the total increase in the labour force. Manufacturing may be facing constraints in scaling up and playing a larger role in job creation and growth.

¹³ For ensuring better data compatibility and sufficiently long coverage the analyses are performed for the period between 2005 and 2014. While more recent data from the pilot 2016 Labor Force Survey has become available recently, the data are not comparable with historical data obtained through household surveys.

¹⁴ Growth in labor productivity, measured as the growth in value added per worker, may come from different sources. Labour productivity disaggregation allows better understanding the sources and patterns of productivity growth. One of these approaches is to distinguish between productivity gains from the inter-sectoral shift of labour and so-called "within" sector productivity changes, which in Rwanda's case can be done by using the national account and household surveys.

In addition to productivity analysis based on data from household surveys, the pilot 2016 labour force survey (LFS) allows a deeper look into the labour market.¹⁵ LFS contains information on a number of hours worked, allowing to derive a better estimate of labour productivity (Figure 22 shows the sectoral labour productivity relative to manufacturing). The labour productivity in the financial sector and ICT is very high, although these sectors combined employed less than 16,000 workers in 2016. Productivity in construction, hotels and restaurants, and in trade services are much lower than one could have assumed without using the data on hours because of longer working hours in those sectors compared to manufacturing.

Figure 22: Labour productivity (adjusted by hours worked): Manufacturing = 100, 2016 Labor Force Survey



Source: NISR, World Bank staff calculation

Based on the patterns of within-sector productivity growth between 2005-2014, and refined estimates of labor productivity based on 2016 LFS, it can be concluded that manufacturing is a distinct sector in terms of a combination of such important characteristics as relatively high level of labor productivity, a proven record of within-sector productivity growth, and

relatively large absorption potential because of abundance of type of labor in Rwanda that the sector demands. Other sectors with high productivity, such as financial services, and ICT may have lower potential to absorb low skill labour because they would mostly demand higher skill labour for growth.

Total Factor Productivity

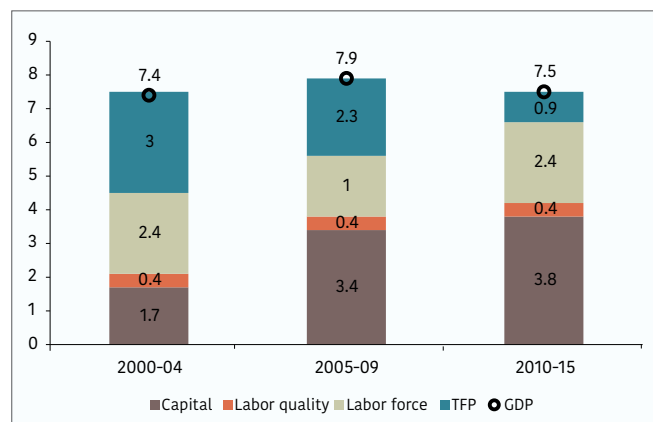
Labour productivity depends on a number of factors such as capital intensity, quality of labour and the efficiency of the overall use of factors of production. More light can be shed on productivity patterns in Rwanda by disaggregating the contribution of different factors of production (capital, labour, and skills) to growth and estimating the residual as TFP. The growth driven by factor accumulation can provide an important boost to the economy, but longer-term sustained growth depends on whether the economy is able to improve the use of available factors of production. For Rwanda, estimating TFP is possible only at aggregate level because of the lack of sectoral data of capital stock. (See Annex B for methodology).

Figure 23 shows the results of growth decomposition. Interestingly, the role of investments has been becoming more important recently, while the contribution from TFP growth has been declining. Although there are methodological issues (such as properly accounting for underemployment), evidence on weakening TFP growth is quite strong¹⁶. This shows that Rwanda might have increasingly relied on capital investments to maintain its high growth trajectory.

¹⁵ Due to methodological differences, the results from household surveys are not fully comparable with LFS thus labour productivity analyses of the previous section cannot be extended to 2016. The main difference between Labor Force and household survey is that a large part of workers engaged only in subsistence agriculture is not considered as employed under the new ILO methodology used for the survey. This brings down the total number of employed to 2.8 million in 2016, compared to around 5.6 million in 2014. As a result, labour participation rate has been revised down to less than 50 percent.

¹⁶ See also IMF, Structural transformation in Rwanda, 2017.

Figure 23: Sources of growth by factors of production, percentage points



Source: NISR, World Bank staff calculation

Growing reliance on investments and declining role of TFP may have important implications for Rwanda's growth prospects.

First, as both domestic private savings and private investments are low, and the government is the main force behind investments, there is only limited scope to further increase public investments under the current growth model. Recent developments showed that increasing public investments at the time of declining official concessional financing can lead to debt accumulation and thus cannot be sustainable in long-term. This highlights the importance of the more efficient use of available investment resources to underpin strong TFP and, ultimately, economic growth.

Factors Affecting Productivity Growth

In terms of possible factors behind the slower growth in TFP in recent years, TFP growth may slow down during a surge in investments, as one experienced by Rwanda in 2010-15.

TFP can slow down as the new projects are being completed. In addition, while the share of investments in GDP was growing in recent years, the ratio of construction expenditures in investments was also on the rise as both private and public investments were skewed toward housing, tourism, and conference infrastructure, which have not yet contributed to GDP to an

extent proportionate to the scale of investments. This may be another factor explaining the recent slowdown in TFP growth.

Regarding public investments, in addition to the basic infrastructure that has been Rwanda's focus in the last two decades, the government's recent investments in so-called MICE strategy (business meetings and international conventions and events), were aimed at creating new opportunities for the Rwandan economy. It will take some time for the expected results to fully materialise and generate value-added commensurate to the scale of investments. At the same time, as the fiscal space narrows, the premium to remove pressing infrastructure bottlenecks and generate high returns in short-term is quite high. There is also a critical spatial dimension in public investments through well-managed urbanisation and improved domestic connectivity, factors that can positively contribute to TFP growth.

With respect to the private investments, they might have been tilted recently toward the sectors where economic activities have not fully peaked up. Evidence points that a larger share of private investments have gone to housing, and hotels and restaurants in recent years. In addition to the evidence from growing share of construction expenditures in total investments, available data from the registry of investment projects of Rwanda Development Board show that hotels and restaurants received almost as much investments as the manufacturing sector in 2010-2016 in spite of the large difference in their contributions to the value added and employment.

The relatively small share of investments in tradable sectors where total factor productivity (TFP) growth potential is high, including manufacturing and agriculture, is also evident from the portfolio of commercial banks that

shows a large increase in the share of loans to housing, hotels and restaurants, while the share of agriculture and manufacturing has been largely stagnant.

Overall, evidence points to a weakened private sector's willingness to go into tradable sectors.

As shown in the special topic of this report, the dynamism in the exports sector in terms of entry and survival weakened in recent years. This trend is in line with evidence that investments, labour and entrepreneurial capital have been increasingly going into housing and hotels in the recent years. This shift could have been driven by market signals, changes in private sector's incentives or market failures that favoured investing in non-tradable sectors. In the context of very low domestic savings and FDIs, the flow of production factors to non-tradables could have come with an opportunity cost for the tradable sectors, and thus for the potential of sustaining the productivity growth.

Some Lessons for a Productivity-Led Growth Strategy

Rwanda is preparing its Vision 2050 and EDPRS 3 with a focus on productivity-led growth as the foundation of prosperous Rwanda.

Understanding the impediments in investing in activities with high potential for productivity growth and formulating policy options to address them is the key focus of the authorities. Productivity analysis in this section shows that three key economic areas, namely, manufacturing, agriculture, and tradable services, have a higher productivity growth potential for Rwanda.

With respect to manufacturing, the sector may provide opportunities for Rwanda to continuously improve productivity and absorb a larger share of low-skilled labour that Rwanda has in abundance. Made in Rwanda campaign

has already brought some initial results, and some of the trends observed here might have been reversed. Manufacturing sector, however, remains underinvested compared to the existing potential of exports and import substitution, and the key policy focus should be on diagnosing and elevating the constraints facing manufacturing sector in Rwanda.¹⁷

A renewed attention to the agriculture as a key tradable sector is also critical.

An improved use of Rwanda's fertile land and rural labour can provide a boost to productivity in Rwanda. Agriculture is also of strategic importance as a source for inputs for manufacturing sectors where Rwanda has comparative advantages, such as agribusiness and food processing, especially in the context of high transportation costs of imported inputs. Going forward, innovative solutions to transform the sector and make it one of the backbones of the future growth will be needed.

In addition to these traditional tradable sectors, Rwanda should also pursue strategic new directions with high long-term returns as part of a two-pronged development strategy.

Rwanda has gained the reputation of a safe, well-governed and politically stable country, while investments in housing, office and hotel infrastructure improved the quality of life for the visitors and expats. Rwanda aims to capitalise on that and become a hub for financial, ICT, transport and logistic services in the region. The two-pronged development strategy with a focus on utilising existing comparative advantages and simultaneously creating new comparative advantages through highly targeted strategic initiatives will be key for maintaining high growth trajectory in long run. Strong prioritisation and well-thought sequencing of interventions and investments will be key for achieving Rwanda's growth objectives.

¹⁷ MINIEACOM, Draft Strategy for domestic market recapturing.

1.3 Macroeconomic Outlook and Risks

In 2017, GDP growth will continue to be below both historical trend and authorities' medium to long-term growth targets. The impact of fiscal restraint and supply shocks will be felt throughout the first half of 2017. The impact of fiscal restraint and supply shocks will be felt throughout 2017. As agriculture recovers during the year growth may be higher than in the first quarter of 2017 but still well below the historical average of around eight percent per annum. Tapering food price shock and a lower inflation would allow monetary policy to become more accommodative. The fiscal policy stance in the second half of 2017 will also be more expansionary. However, persistent external imbalances and elevated public debt will constrain the use of macroeconomic instruments in the medium term. In macroeconomic management, the authorities will be guided by the need to maintain adequate foreign exchange

reserves and maintain Rwanda's status of low risk of debt distress.

Returning to a higher growth trajectory in 2018 is attainable, although there are risks. In the medium term, economic activity will benefit from the expected recovery of prices of traditional exports, including minerals, tea, and coffee. A more competitive exchange rate will support the non-traditional tradable activities under the "Made in Rwanda" initiative. On balance, the outlook in agriculture is positive, although adverse climatic events pose risks. Overall, medium to long term outlook will depend on the extent to which the private sector will move to invest in the tradable sectors with higher growth and productivity potential. Other risks to growth are associated with weak external environment, regional tensions, and regional security outlook.



PART TWO

ANALYSIS OF RWANDA'S EXPORT PERFORMANCE



2.1 Background

Expansion of exports is usually associated with growth spurts in an economy, and Rwanda will need stronger export performance to meet the vision of attaining middle-income status. The small domestic market alone cannot generate jobs for the working age population, projected to grow by 220,000 per year between 2015-2020. A thriving export sector helps align the domestic economic incentive structure with areas in which the country has a comparative advantage. Exports also create dynamic efficiency gains by exploiting economies of scale, adopting foreign technologies, management and business practices. In addition, export sectors are associated with higher productivity gains leading to wage premiums and job creation.

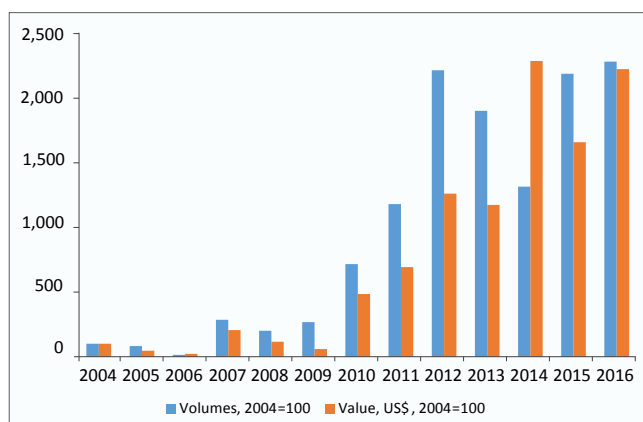
Increased diversification of commodity exports and increased number of high-value commodity exports are needed to generate employment away from agriculture. However, Rwanda still relies heavily on commodity exports particularly coffee, tea and minerals exposing fluctuation in commodity prices. Export receipts help to finance import of capital goods and enable countries to maintain a favourable balance of payments.

This section analyses Rwanda's export performance focusing on the overall patterns of exports growth in the main export sectors-agriculture, mining, services and re-exports. This is followed by an analysis of exporting firms-looking at characterises, entry, exit and survival trends and growth. The section will conclude with some policy consideration based on the analysis.

2.2 Overview

Rwanda, a country with a historically very small export base, has made substantial progress expanding its export opportunities in the recent years. Total export of goods and services increased almost four-fold in the last decade, from US\$0.4 billion in 2007 to US\$1.6 billion in 2016 (Figure 24).

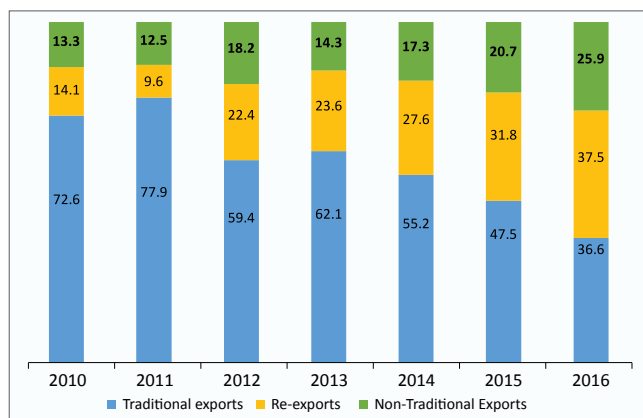
Figure 24: Rwanda exports of goods and services (BoP, current US\$ million)



Source: World Development Indicators and Central Bank of Rwanda (BNR) (2017)

Rwanda's exports have been dominated by minerals, tea and coffee, collectively known as traditional goods. In 2016, these commodities accounted for less than half of total merchandise exports. Along with booming re-exports, the growth of exports of non-traditional merchandise, such as agriculture products and manufacturing goods, and other minerals currently accounting for 25 percent of total merchandise exports in 2016 has also helped to expand the overall exports, (see Figure 25).

Figure 25: Evolution of merchandise exports

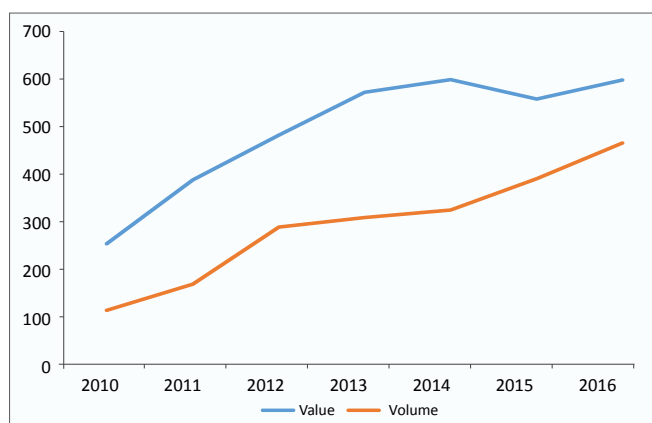


Source: BNR

After a period of a major expansion in 2009-2012 the growth in total exports declined since 2013. This was driven by weak prices of commodities that Rwanda exports, and also stagnant, and sometimes declining, production volumes in traditional exports. Strong growth in

non-traditional goods that was largely sustained over recent years partly compensated the weak performance of traditional sectors, helping to maintain the dollar value of total merchandise exports at the level of 2013 and ensure robust growth in volumes. (Figure 26) While exports of services performed better, exports remained largely stagnated at around 15 percent of GDP in the recent years. In spite of big strides in export diversification, Rwanda continues to rely on commodity exports, which is a source of vulnerability.

Figure 26: Volume and value effect of merchandise exports



Source: BNR

The DRC and the EAC region are currently the most important export markets, an indication of growing regional trade. In the 2016 DRC accounted for 32 percent of total merchandise exports, while Kenya, Uganda, and Burundi jointly accounted for 24 percent of exports.¹⁸ Other important export markets include the United Arab Emirates with 14 percent per cent share, Switzerland 9 percent per cent share and the United States with 3 percent per cent share.

The EAC region is Rwanda's most important trading block. Rwanda is a member of several regional groups including the East African Community (EAC), the Common Market for Eastern and Southern Africa (COMESA), the Economic Community of Central African States (ECCAS)¹⁹ and the Economic Community of the Great Lakes Countries (CEPGL). Formal exports to the EAC accounted for 26 percent of Rwanda's total exports, a total value of US\$157.52 million in 2016. Discounting tea which is sold at the Mombasa auction and accounts for 46.9 percent of total formal exports to the EAC, other key exports products included petroleum product re-exports (mainly to Burundi), raw hides and

Table 2: Key export destinations

Importer	Export value, US\$ thousand	Percentage of total exports
Congo, Democratic Republic of the	197,810	32%
Kenya	99,459	16%
United Arab Emirates	87,026	14%
Switzerland	54,905	9%
Burundi	35,923	6%
Singapore	20,115	3%
United States of America	18,742	3%
Belgium	18,302	3%
Uganda	14,642	2%
Hong Kong, China	11,702	2%

Source: ITC data

¹⁸ This includes tea exports through Mombasa auction which if discounted will reduce the percentage of exports to the EAC region.

¹⁹ Rwanda is not a member of the Free Trade Area under ECCAS.

skins and sorghum and motor-vehicles. Rwanda imports from the EAC accounted for 23 percent of total imports at US\$527 million in 2016. Imports from the EAC include cartons, boxes, cases, bags, and other packing containers from Kenya, home use products and agriculture products.

Non-Tariff Barriers (NTBs)²⁰ within member states pose obstacles for increase trade between Rwanda and the EAC. While member states have lowered tariffs significantly on account of the Customs Union that was launched in 2010, intra-regional trade is hampered by Non-Tariff Barriers (NTBs). As landlocked country, Rwanda is particularly affected by NTBs imposed by partners especially those which increase time and costs of importing and exporting. According to a 2014 survey by ITC, over 75 percent of Rwandan firms surveyed reported experiencing burdensome NTBs. Of these 75 percent of exporting firms and 83 percent of importing firms reported being affected by NTBs. Mechanisms for identification and reporting of NTBs has been enacted under the EAC Elimination of Non-Tariff Barriers Act which provides for three options to identify and report NTBs: the first option is for the affected member state to discuss directly with the country imposing the NTB. This relies on mutual agreement understanding between the two parties which is not always easy to achieve due to objectives of parties. The other option is through the Time-Bound Program in which the affected member states notifies the responsible member states after which the National Monitoring Committee of the responsible country is expected to investigate the impact of the NTB and propose a plan for its elimination. The weakness of this measure is that some NMCs are weak and do not have the capacity to conduct adequate investigations. The third mechanism relies on directives and decisions from the Council of Ministers.

As of June 2016, the EAC Secretariat reported that 104 NTBs have been resolved since 2009. The reports indicate that 25 additional NTBs remain many of which are in the relate to tax-like measures and non-application of preferential trade arrangements; and those relating to sanitary and phyto-sanitary measures that address concerns relating to health and safety. While the publication of the NTBs is a positive step, at a regional level, more emphasis needs to be given to the removal of existing and newly created NTBs in a timely manner. The effectiveness of mechanisms will also depend on the capacity of the National Monitoring Committee to investigate the reported NTBs.

Rwanda benefits from several trade preferences that provide competitive market access to Europe and to the US markets but these are underutilized. Rwanda's exports enjoy a competitiveness advantage as a result of duty-free preferences under the EU's Everything but Arms Initiative (EBA), and the USA Africa Growth and Opportunity Act (AGOA). Like other beneficiary countries, the challenge for Rwanda is not about accessing exporting markets but being able to utilize these markets opportunities. In 2015, exports to the USA through the AGOA scheme amounted to only 2% of total exports to the USA or less than US\$1 million. (AGOA Implementation Plan 2016). Exports to the EU under the EBA scheme are also limited. While Rwanda utilization under EBA has increased from 25.5 percent in 2015 to 61 percent in the first half of 2015, the total value of exports through the EBA scheme is low accounting to 238,000 Euros in 2016. Supporting exporters to enhance standards and quality of exports will enable more firms to take advantage of the existing trade preferences.

²⁰ The EAC defines NTBs as laws, regulations and administrative requirements other than tariffs imposed by a partners state whose effect is to impede trade (EALA 2015).

2.3 A Snapshot of the Main Export Categories

This section provides a snapshot of the main four export items, including traditional exports, non-traditional exports, informal cross-border trade, re-exports, and service exports. It presents a brief summary of developments over the recent decade and, wherever evidence permits, main challenges that the respective sectors face in scaling up production and exports.

Traditional Exports

Traditional exports in Rwanda's context refers to the following export products: (a) coffee and tea, (b) traditional minerals such as cassiterite, coltan and wolfram, (c) hides and skins, and (d) pyrethrum (bright petal flowers).

Rwanda's traditional agricultural exports of tea and coffee are still important export earners but overall performance in the recent years was mixed. Although earnings from coffee exports in 2016 at around US\$60 million were almost double of the earnings in 2004, the increase was due to higher unit prices, while production volumes were stagnant, and even declining in more recent years. In contrast, the volumes of tea production and exports have almost doubled in Rwanda in the recent decade, which helped to triple the earnings from tea exports, bringing it to above US\$60 million in 2016.

The biggest challenge for coffee and tea is low yield. This could be explained by low usage of fertilizer, both mineral and organic, poor farm practices and diseases/ pests controls. Tea yields are half of those in Kenya. Coffee and tea production is dominated by small-scale subsistence farming under traditional practices. NAEB reports several initiatives to increase production and productivity of the two commodities. For coffee, this includes increased use of fertilizers and pesticides, and the provision of improved varieties to farmers. In the tea sector, the Tea Expansion Program aims to develop new tea plantations. Increase production of these two sectors could also be achieved by attracting FDI into these sectors.

Value addition to coffee and tea has the potential to boost profitability and reduce exposure to raw commodity price volatility. The average price of fully washed coffee in 2015 was US\$4.9/kg compared with US\$3.6/kg for semi-washed coffee in the same period. In coffee, NAEB's target is to increase the volume of fully washed coffee that is exported and increase roasting of coffee. Diversifying export markets for tea and coffee may also help to shield against regional price fluctuations.

Table 3: Coffee and tea exports-value, volume and price developments

Importer	2010	2011	2012	2013	2014	2015	2016
Coffee							
Value	56.08	74.60	60.89	54.90	59.68	62.04	58.49
Volume	18.24	15.60	16.99	19.99	15.97	18.79	18.64
Price	3.08	4.78	3.58	2.75	3.74	3.30	3.14
Tea							
Value	55.71	63.90	65.72	55.48	51.76	72.46	63.42
Volume	21.53	23.73	22.45	21.01	22.67	24.68	24.41
Price	2.59	2.69	2.93	2.64	2.28	2.94	2.60

Source: BNR 2017

Export performance of traditional minerals was also mixed. Volumes of mineral extraction and exports have grown since 2004 for two out of three main minerals, namely coltan and wolfram, while production of cassiterite has largely been stagnant. The increase of extraction of those minerals and strong international prices helped to expand export earnings from less than US\$68 million in 20104 to US\$226 million in 2013 but declining prices have almost completely reversed this trend and in 2016, mineral exports accounted for just US\$86 million. (Table 4)

This mixed performance of mineral sectors is partly explained by low productivity in the mining sector. The sector continues to rely on rudimentary methods, characterized by small-scale and artisanal mining with unskilled labor. So far the sector has attracted low FDI relative to other sectors. FDI to the mining sector accounted for 9.6% of total FDI inflows in 2015 compared to 30% going to agriculture and 40% for services (ICT and tourism). In addition to resource, FDI brings new technologies, improved mining methods and skills which are needed to boost the productivity of the sector.

Export success stories are skewed towards small categories. In spite of weak prices, exports of hides and skins have increased in physical volumes more than three-fold, amounting to around US\$6 million in 2016. Pyrethrum generated US\$35 million in 2016, compared to US\$16 million in 2004, on the back of strong prices which almost doubled.

Table 4: Mineral exports performance

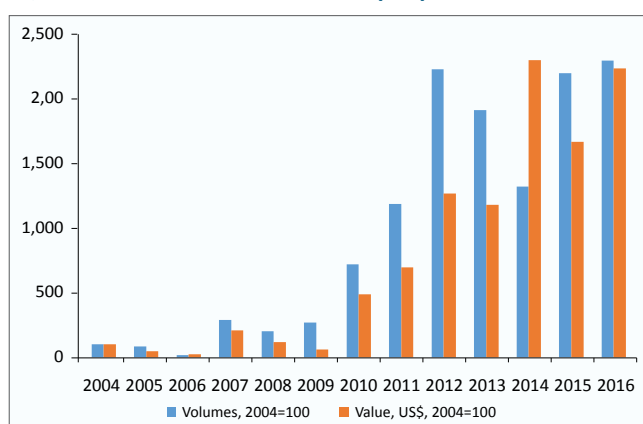
	2010	2011	2012	2013	2014	2015	2016
Value	67.79	151.43	136.07	225.7	203.32	117.81	86.42
% change of value		1.23	-0.1	0.66	-0.1	-0.42	-0.27
Volume (tons)	5,466	8,848	7,532	9,579	10,471	7,282	6,536
% change of volume		0.62	-0.15	0.27	0.09	-0.3	-0.1

Source: BNR (2017)

Non-Traditional Exports

Non-traditional merchandise exports are gradually taking-off. Exports have risen from US\$3.8 million in 2004 to US\$155.3 million in 2016. (Figure 27). The largest component of other exports was minerals (51.6 percent of total), followed by agriculture (23.9 percent of total), manufacturing (12.8 percent of total) and other products (11.7 percent of total). Production of non-traditional mineral increased from around 500 tons in 2004 to 6,600 tons in 2016. This helped to increase export earnings from US\$2 million in 2014 to US\$80 million. Exports of non-traditional agriculture products were at around US\$37 million, a large increase from less than US\$1 million in 2004.

Figure 27: Non-traditional exports (US\$), 2004-2016



Source: BNR

Rwanda produces several fruits and vegetables both for the regional and international markets. It is estimated that over 1 million people are employed in the horticultural sector

so the growth of the sector has the potential to improve livelihoods. NAEB reports export revenues from horticulture of US\$6.7 million in 2015, registering a decline from US\$9 million in 2014. This was mainly due to a 24 percent decline in volume in this period. NAEB recognizes the challenge of sustaining volumes requested by buyers since production is dominated by small-scale farmers under rain-fed conditions. Organizing the horticulture value chain to increase the involvement of commercial farmers is necessary to improve the quality and volumes of horticulture produce.

Horticulture production requires an efficient cold storage network closer to the production areas especially for more perishable products such as french beans, fruits, tomatoes.

Currently, there are cold-storage facilities at the international airport and in different collection centers. One of the issues is the management of these facilities is important for instance separating organic produce from non-organic produce. Refrigerated trucks are also a good alternative to reach producing areas without adequate transport networks.

Increased air cargo capacity provides opportunities to increase exports of high-value perishable products to key markets in Europe and Asia.

While exporters note the relative high costs of air transportation, there has been a decline as more air cargo capacity is created with the expansion of RwandaAir in terms of new routes and addition of other international flights have helped to reduce the cost of air cargo.

Rwanda increased the exports of domestically produced manufacturing goods from less than US\$1 million in 2004 to almost US\$20 million in 2016. It is expected that with the “Made in Rwanda” campaign and renewed investments in tradable sectors this positive trend will be sustained.

Small-Scale Exports (Cross-Border Trade)

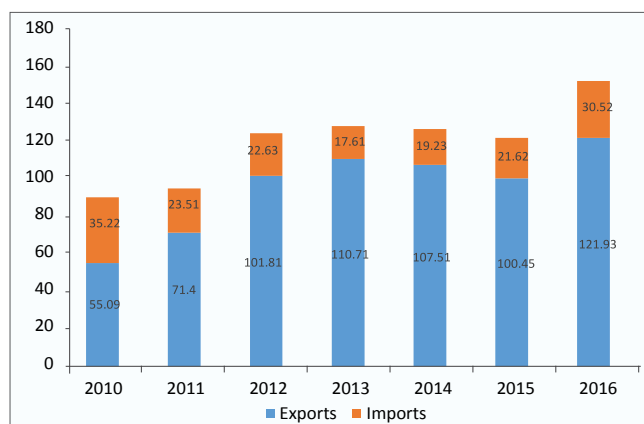
Informal exports accounted for 20.4 percent of Rwanda’s total merchandise exports in 2016, more than doubling in dollar terms since 2010.

In 2016, informal trade had a positive trade balance of US\$91 million as informal exports outstripped informal imports. (Figure 28) Small-scale exports include telephonic apparatus, live animals, agriculture produce and second-hand clothing. Small-scale cross-border trade takes place mostly at the border areas with Rwanda’s neighbors Burundi, DRC, Uganda and Tanzania. The National Cross-Border Strategy estimates that 80 percent of small-scale cross-border trade takes place in the Western Province where 48 percent of the population were identified as poor, the second highest incidence of poverty (based on 2011 HHS).

Cross-border traders face several challenges.

The most cited being payment of bribes, fines, harassments, confiscation of goods and sexual harassment. The government recognizes these challenges and through the implementation of the Nation Cross-Border Strategy (2011-2017), infrastructure including border markets, one-stop border posts and storage facilities are being developed. (MINICOM Report, 2015). For these measures to be effective, a regional approach must be taken to ensure that commensurate

Figure 28: Rwanda informal cross-border trade



Source: BNR, NISR

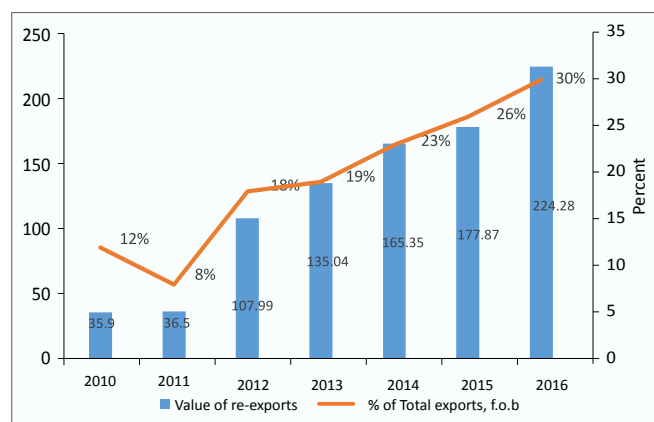
²¹ Brenton et al (2011), Risky Business: Poor Women Cross-Border Traders in the Great Lakes Region of Africa.

reforms are implemented across the border by Rwanda's neighbors. The signing of an agreement between Rwanda and DRC creating a framework for bilateral cooperation on cross-border trade and the removal of NTBs is considerable progress given the important of the DRC market for Rwanda exports.

Re-Exports

Re-exports have emerged as an expanding sector.²² In 2016, they accounted for 30 percent of total exports with a total value of US\$224 million representing more than six-fold increase from 2010 (Figure 29). Petroleum products constitute over 50 percent of total re-exports in 2016. Other re-exported products include vehicles, machines and engines destined for Burundi and DRC, key re-export markets.

Figure 29: Performance of re-exports, US\$ million, and percentage of total exports



Source: BNR, NISR

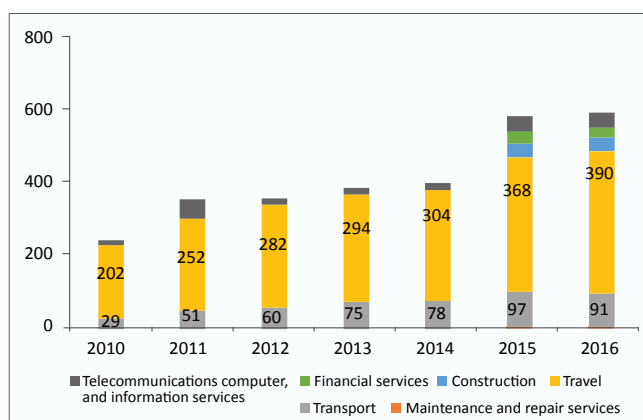
While re-exports are typically associated with little value addition, Rwanda's emergence as an important re-export route highlights country's potential in regional trade of goods and services. Due to its central location between East and Central Africa, Rwanda serves as a transport hub to eastern DRC and Burundi

around which re-exports develop. For example, oil marketers use Rwanda as a storage base before exporting to Eastern DRC and Burundi. The growth of re-exports will be driven by improvements in the transport, logistics and distribution services in Rwanda.

Service Exports

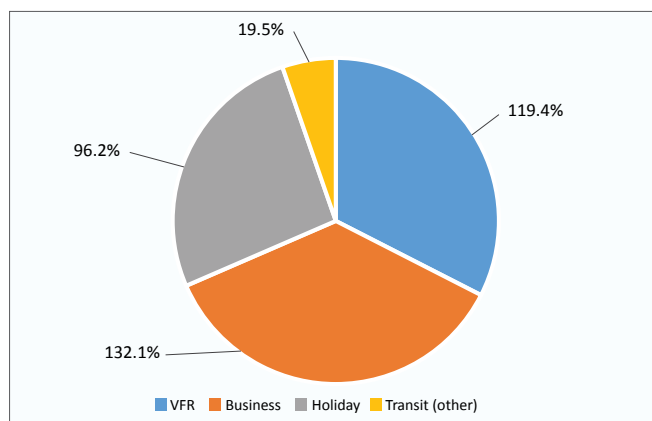
Services exports, that grew at around 20 percent on average in recent years are dominated by travel services (Figure 30). Travel, including tourism is the most important segment of services exports accounting for US\$390 million in 2016. Rwanda has the highest share of tourism in export receipts (at around 30 percent of total exports) among its regional peers. Business tourism is the most important segment contributing US\$132 million in 2015 (Figure 31). The government has placed an emphasis on MICE segment with the aim of attracting more business tourist through hosting more international meeting and events. Eco-tourists account for just 2 percent of tourist but contribute 16 percent of revenues. Visiting friends and relatives accounted for 33 percent of total receipts (US\$119.4 million) and holidays 26 percent (US\$96.2 million).

Figure 30: Services exports, 2010-2016, balance of payments (US\$ million)



Source: BNR, NISR

²² Re-exports are defined as foreign goods (goods produced in other economies and previously imported) that are exported with no substantial transformation from the state in which they were previously imported. IMF (2009), Sixth edition of the IMF's balance of payments and international investment position manual (BPM6). Washington, DC: International Monetary Fund

Figure 31: Receipts from tourism, 2015

Source: RDB

The transport sector is the second most important segment, bringing in US\$91.1 million in 2016. Air transportation is the main sector generating exports earnings. The sector has been growing quite strongly recently on the back of Government's efforts to boost the operations of RwandAir and transforming it into a regional player in air transportation industry. In addition, ICT (mostly telecommunications) and financial services are emerging as important export segments, accounting for US\$41.4 million and US\$27.8 million respectively in 2016.

2.4 Firm-Level Analysis

This section examines export performance from the perspective of firms. Looking at exports by firms can provide insight into which firms are driving export growth in Rwanda. The analysis is based on transaction-level customs data from Rwanda Revenue Authority for the period 2009-2016. It also benchmarks the performance of Rwandan exporters relative to other countries using the World Bank's Exporter Dynamics Database.

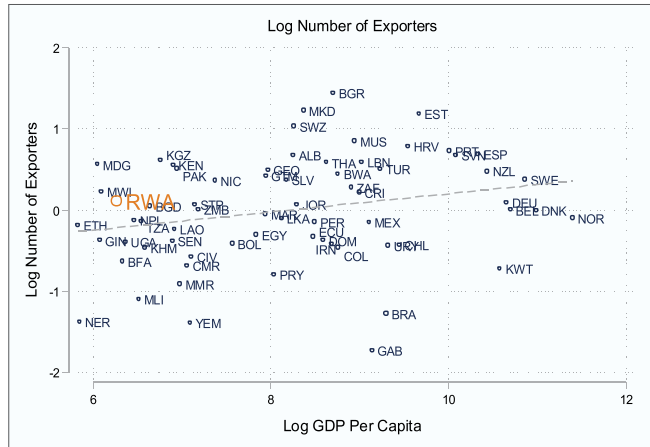
Key findings:

- i. The number of exporting firms in Rwanda was increasing between 2009 and 2014 but declined markedly in recent years. The majority of exporters serve only the regional-market (EAC and DRC).
- ii. Rwandan firms are considerably smaller than exporters in regional peer countries and the average exporter size has not increased over the sample period.
- iii. Exports are concentrated in the hands of a few large firms, the top 5 percent exporters control over 80 percent of exports. Such concentration is similar to other countries at the same level of development.
- iv. Rwandan exporters are on average less diversified, both in terms of the number of exported products as well as destination markets. Over 50 percent of exporting firms export only a single product to a single destination.
- v. Incumbent exporters account for the bulk of exports in Rwanda while entering and exiting exporters are much smaller.
- vi. Rwanda exhibits significantly higher exporter entry rates and export exit rates than regional peers. Firms that start exporting in the non-traditional sectors are less likely to survive in the foreign market than those in the traditional sectors.
- vii. Exporters that imports intermediate inputs are on average more diversified in terms of both export product as well as destinations than pure exporters.

Exporter Base, Size, and Concentration

Rwanda has a higher number of exporters than comparator countries with similar size and level of GDP per capita (Figure 32).

Figure 32: Number of Rwandan exporters



Source: World Bank staff calculations

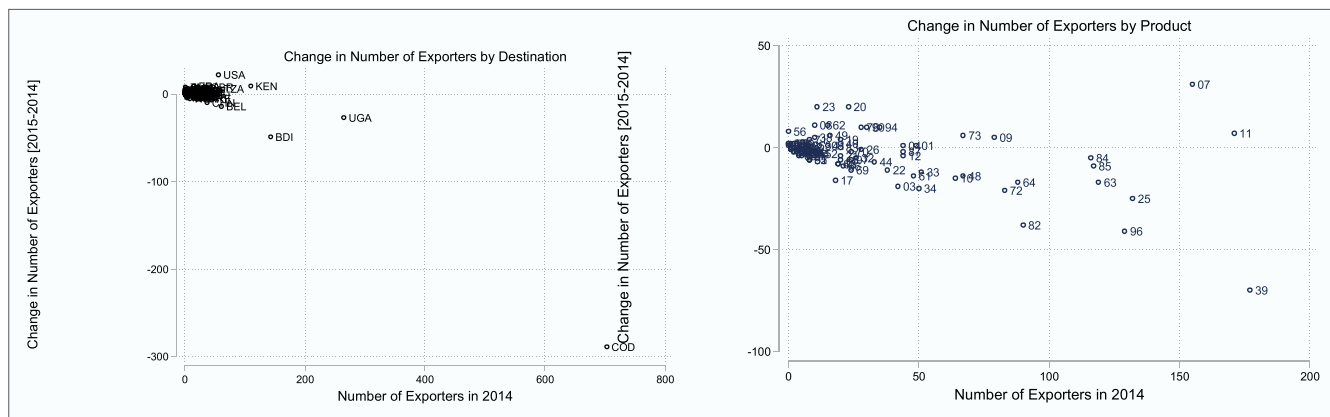
There was a steady increase of the number of firms entering the export market but the trend slowed down in recent years. Exporting firms increased from 576 firms in 2009 to 1,506 in 2014 but has declined markedly since 2014. In 2015 and 2016 exporter net entry in Rwanda became negative suggesting a decreasing pool of exporters. To understand the underlining drivers of this trend, the number of exporters are decomposed by destinations and products (Figure 33). The source of the remarkable fall in the number of Rwandan exporters could be traced to events in two of its important export

destinations: Democratic Republic of Congo (DRC) and Burundi. As left panel of Figure 33 depicts DRC was by far the most important destination of Rwandan exports in 2014 (horizontal axis) as well as the source of the highest fall in number of exporters between 2014 and 2015 (vertical axis). Burundi comes in the second place in terms of accounting for the huge fall in number of exporters. This fact is a clear signal warning against excessive reliance on limited number of export destinations. Rwanda should explore possible ways to break into all export markets available if Rwanda is to continue on its export growth trajectory.

Looking at the number of exporters by product, the largest decline was observed in the manufacturing sector has been hit hard in 2015 (right panel of Figure 33).

Rwandan exporters are considerably smaller than exporters in regional peer countries. With a mean exporter size of US\$0.38 million Rwanda's exporters on average are much smaller than regional peers such as Uganda, Tanzania, and Kenya with larger exporters per export value of US\$1.1 million, US\$1.6 million and US\$0.95 million respectively. Even comparing with low-income and landlocked countries such as Malawi and Nepal, Rwanda's exporters are still small. The median exporter in Rwanda had an export value of US\$4,900 in 2016, a decline from US\$5,800 in 2009.

Figure 33: Number of exporters by destinations and products



Source: World Bank staff calculations

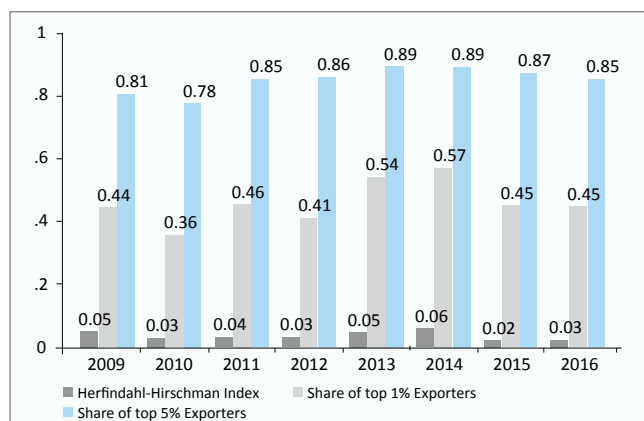
Whereas the median exporter size in Kenya and Tanzania are more than 18 thousand USD. Although the small export size partly reflects the size of the economy, the relatively small average and median exporter sizes of Rwandan exporters prevail even after controlling for the size of the economy and level of development. The difference between mean and median values per exporter reflects the skewed distribution of exporter size in Rwanda, where many small exporters coexist with a few very large firms.

Rwanda is broadly similar to other countries that exports are concentrated in the hands of a few dominant exporters.

The top 5 percent exporters in Rwanda account for more than 80 percent of the total value of Rwandan exports while the top 1 percent of exporters accounted for more than 40 percent of total export value in the period 2009-2016. Although the size distribution of exporters in Rwanda is highly skewed, it does not differ significantly from the average level of concentration in many other countries with similar size and level of development. In fact, the Herfindahl index and the share of the top 1 percent of exporters suggest that Rwandan exports appear to be less concentrated controlling for size and level of economic development.

The share of the top exporters has not changed much over time, other than the fact that there was a slow increase in the share of the top

Figure 34: Exporter concentration in Rwanda, 2009-2016



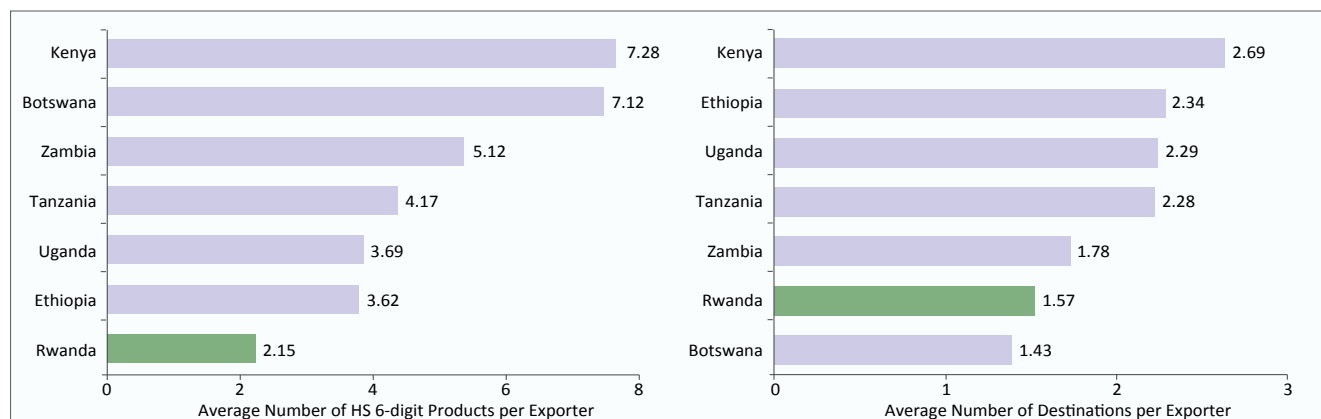
Source: World Bank staff calculations

5 percent exporters until 2014 and declined in 2015 and 2016 (Figure 34).

This pattern correlates with recent research that shows that concentration in the top five firms, and even in the top firm, increase as a country's exports grow. For instance, Freund and Pierola (2016), show that the level of export concentration among the top exporters increases as exports grow as the most productive firms account for a larger share of exports.

Rwandan exporting firms are on average less diversified both in terms of the number of exported products as well as destination markets relative to the regional peers. A Rwandan firm exports on average two products and reach an average of 1.5 destinations, which makes them the least diversified among all regional peers (Figure 35). Rwandan exporters

Figure 35: Firm-level diversification



Source: World Bank staff calculations

are less diversified in terms of product and destination markets even after controlling for country size and level of development. The average number of products exported and the number of destinations served per firm have not changed much since 2009 although the period 2012 through 2015 has shown a slight improvement in diversification in terms of products. The average number of destinations per exporter has however declined over this period. This evidence suggests that firms face substantial barriers to expanding their product scope and export destinations.

There is enormous variation across exporting firms in the number of export products and destination markets, with most firms selling a single product to a single destination. While large firms are well diversified in terms of export products and destinations, small firms are less able to mitigate risk through product and market diversification. In 2009, about 57 percent of exporting firms exported a single product to a single destination market and accounted for only 6 percent of the total value of export. In 2016, about 59 percent of firms sell a single product to a single destination, but account for about 33 percent of the total value of export. Such dependence on a single market makes firms susceptible to destination-related shocks as is the case with Burundi which has closed its borders to all imports from Rwanda and DRC

which is introducing increasingly restrictive measures for imports from Rwanda. Diversifying destinations of exports helps firms to survive at the product-level (Jaud and Freund, 2015).

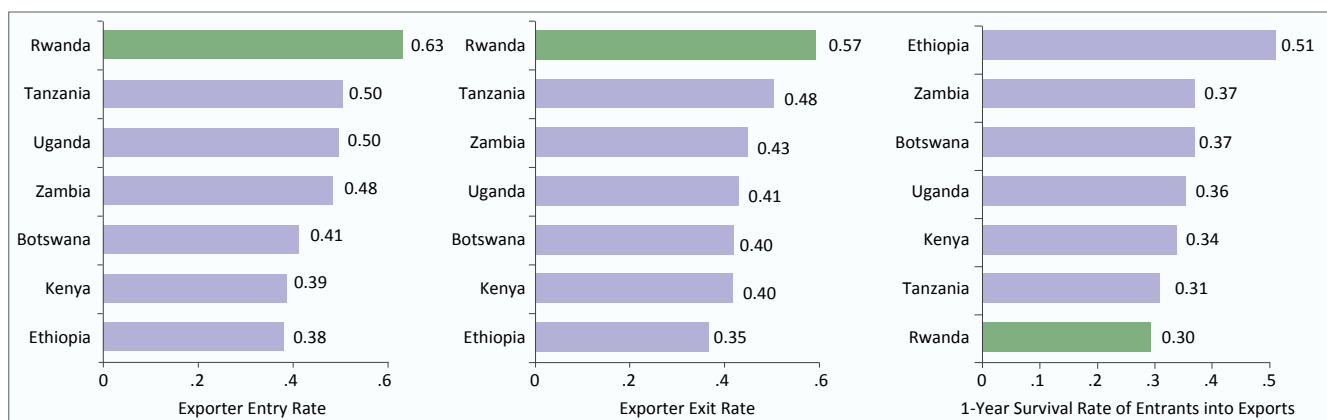
While Rwandan firms manage to penetrate into the regional markets (EAC and DRC), the number of firms exporting to destinations outside the region has not changed over time.

The average value of exports per exporter to regional markets is much smaller than exporters to the rest of the world. The presence of a very large number of new exporters and exiters in every year that are very small in terms of their exports in the neighbouring countries reflects the fact that entry into regional markets entails a smaller fixed cost.

Entry, Exit and Survival of Firms

Exporter entry and exit rates are significantly higher in Rwanda than in other countries in the region. On average, 60 percent of Rwandan firms that exported in a given year did not do so in the previous year over the period 2009-2016. More than 50 percent of the new exporters that started exporting in a given year have stopped exporting in the following year. On average, only 30 percent of new exporters in a year survive in the export market into the next year. Figure 36 shows that entry and exit rate of exporters is highest in Rwanda compared to regional peers.

Figure 36: Entry, exit, and survival in Rwanda and comparator countries

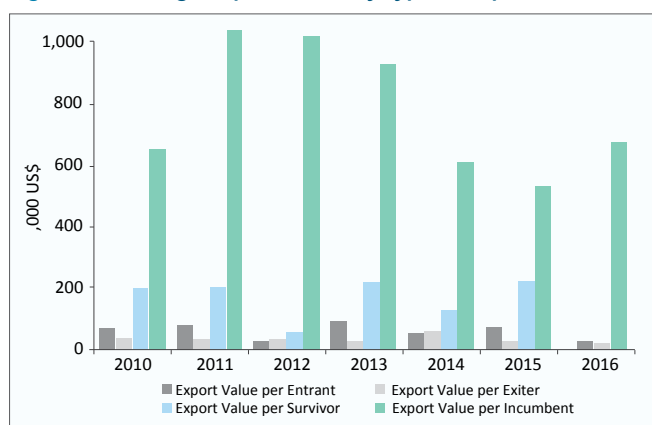


Source: World Bank staff calculations

The entry and exit rates of exporters in Rwanda is very high even after controlling for size and level of economic development. The results suggest that a key challenge to export growth is to sustain survival of new exporting firms.

Incumbent exporters account for the bulk of exports in Rwanda while entering and exiting exporters are much smaller. Figure 37 shows the average exports per firm by exporter type: entering, exiting, continuing and surviving firms and it clearly shows that both entering and exiting exporters are very small relative to continuing exporters. The figure also shows that entering firms are larger than exiting firms except the year 2012. It is also interesting to note that surviving new entrants are on average larger than exiting firms.

Figure 37: Average exporter size by type of exporters



Source: World Bank staff calculations

For a better understanding of firm dynamics behind the exports growth, total export growth can be decomposed along different dimensions (see Box 1 in the Appendix for the decomposition). Table 5 shows the decomposition of the growth rate of Rwanda's total export into intensive (contribution by incumbent firms) and extensive

margin, including through new exporting firms or firms exiting exports sector. Table 6 presents the results of decomposition by existing versus new destinations, while Table 7 presents the growth patterns based on existing versus new products.

Rwanda's dramatic export growth in 2011 was mainly driven by the expansion of incumbent exporters (intensive margin). With respect to the net contribution due to entry and exit, it was positive, as exports growth rate due to entry of new exporting firms (31 percent) was bigger than export loss due to the exit of firms (7.85 %). In the more recent period of 2015 versus 2013, when Rwanda's exports reported by the firms contracted by 10.5 percent and the change was also largely driven by the contraction of incumbent firms (intensive margin). This is due to the fact that entering and exiting exporters are smaller than continuing exporters. The contribution of new exporting firms more than offset the decline in export by exiting firms in all years, suggesting that entry and exit in foreign market continued to be associated with a positive selection effect.

In terms of export growth patterns by existing versus new destinations, the growth in exports through exporting to new destinations slowed substantially between 2009 and 2015 (Table 5). In 2011 versus 2009, both expansions to existing markets as well entry into new markets contributed significantly to export growth by continuing firms. The export contraction in 2015 compared to 2013 was mainly driven by a decrease in export activity by incumbent exporters to their existing destinations (destination intensive margin). While exports growth by incumbent exporters to new markets was positive, this was partly offset by exit from the existing markets.

Table 5: Decomposition of changes in Rwanda's exports into intensive and extensive margin along firm dimension

	Aggregate export growth (%)	Continuing exporters growth (%)	New exporters (%)	Exiting exporters (%)
2009-2011	66.14	42.86	31.13	-7.85
2011-2013	26.79	9.67	27.11	-9.98
2013-2015	-10.54	-13.6	17.46	-14.4

In terms of export growth through continuing to existing products or exporting new products, new products played relatively limited role, and even that has been declining in more recent periods. As shown in the table 6, in 2011,

the change in export to existing destination by incumbent exporters has been driven mainly by the growth in exports of existing product (product intensive margin) rather than exports of new products (product extensive margin). In 2015, Rwanda's export to existing destinations by incumbent exporters declined by 18.6 %, which stems partly from the reductions in exports of

continuing products (9 %) as well as product shedding. The addition of new export products was not enough to offset the loss in export due to product shedding.

Although change in export of the incumbent exporters was the main force underlying the major expansion and slowdown, entry of new exporting firms plays an important role for export growth over the longer period. By initial year cohort, firms that began exporting after 2009 account for about 60 percent of the total exports in 2016. Table 8 presents data on the

Table 6: Decomposition of changes in exports by continuing exporters into intensive and extensive margin along the destination dimension

	Continuing exporters growth	Continued destination growth (%)	New destinations (%)	Exiting destinations (%)
2009-2011	42.86	22.71	32.87	-12.73
2011-2013	9.67	4.37	16.58	-11.29
2013-2015	-13.6	-18.64	19.51	-14.46

Table 7: Decomposition of change in exports to existing destinations by continuing exporters along the product dimension

	Continuing exporters' continued destinations growth (%)	Continued products growth (%)	New products (%)	Exiting products (%)
2009-2011	22.71	34.47	7.14	-18.89
2011-2013	4.37	-0.81	11.01	-5.83
2013-2015	-18.64	-9.01	2.9	-12.54

share of exports of firms that start exporting in a particular year over the remaining years of the sample. Firms that enter into exporting during sample period have contributed significantly to export growth over the sample period.

What Determines Export Survival and Performance?

There is a significant variation in the survival of new exporters across products. The analysis shows that, compared to traditional goods exporters, new exporters in non-traditional are more likely to exit foreign market one year after entry. Entrant survival in the export market can be influenced by firm, industry and destination characteristics. To investigate the determinants of entrant survival on the export market, a simple linear probability model was estimated (Table 8 reports the results). The table shows that larger exporters on entry are likely to survive in the

export markets than smaller exporting firms. The result also suggests that the probability of entrant survival increases with the number of firms exporting the same product at the time when the product is exported. This result suggests the presence of cross-firm synergies. Firm survival in the export market increases in sectors where the country has a revealed comparative advantage (RCA) at the beginning of the sample year, i.e. 2009. These results suggest that the average survival rate of entrants into export markets is determined to some extent by comparative advantage. Specifically, firms that start exporting products in which the country has a comparative advantage tend to survive on average more than the other products. Firms that are exporting products that do not reflect the country's comparative advantage are more likely to exit the foreign market one year after entry.

Table 8: Determinants of first-year export survival

	(1)	(2)	(3)	(4)	(5)	(6)
	Dep variable: Entrant first-year survival					
Log value of export on entry	0.042*** (0.002)	0.041*** (0.002)	0.042*** (0.002)	0.041*** (0.002)	0.039*** (0.002)	0.041*** (0.002)
Number of firms exporting HS6 product on entry		0.003*** (0.000)			0.003*** (0.000)	0.003*** (0.000)
RCA in 2009			0.001* (0.000)			
Traditional products				0.052*** (0.017)		
Log Distance					0.001 (0.003)	
Importer						
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Product FE (HS2)	Yes	Yes	Yes	No	Yes	Yes
Destination FE	Yes	Yes	Yes	Yes	No	Yes
Observations	13521	13521	13362	13521	13443	13521
R-squared	0.125	0.129	0.124	0.095	0.110	0.129

Although the empirical analysis sheds some light on the determinants of exporter survival, the reasons why most exporters exit after just one year deserves further scrutiny. An ongoing survey on investor perception by the World Bank in collaboration with Rwanda Development Board could provide insights from firms to explain the low survival rates. Additional surveys targeting firms that ceased to export is recommended to further understand constraints faced by exporting firms in Rwanda.

Exporters that source intermediate inputs from abroad tend to export more products and serve more markets than unidirectional exporters. The role of imports of intermediate inputs has long been considered as an important determinant of export performance. Import of intermediate goods enables firms to improve their productivity, upgrade technology or introduce new products. Recent micro-level studies demonstrate that firms that have access to a larger variety of imported inputs increase their productivity and export performance.²⁵ Figure 38 shows that firms that source intermediate inputs from abroad tend to export more products (measured by firm-level count of unique HS 6 products) and serve more destination markets than pure exporting firms.

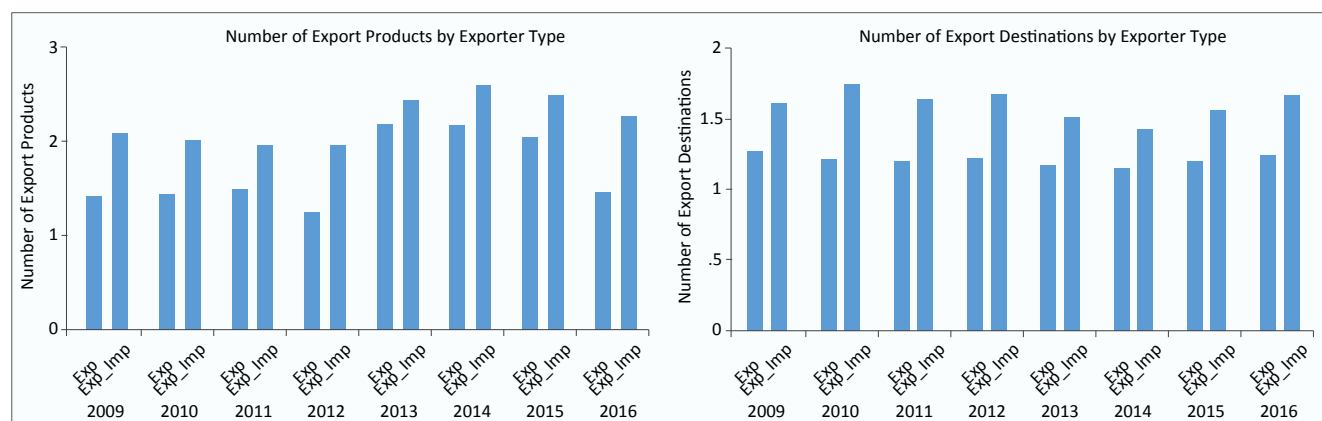
2.5 Policy Considerations

This section summarizes several broad policy considerations to improve the performance of export sectors.

Maintain a competitive real exchange rate that will help firms to grow and to access new markets. The single most important price that affects exporters of all sizes is the real exchange rate (RER). As RER appreciates the price of domestic goods increases and as result the demand for Rwanda's exports decreases. Recent depreciation of the exchange rate that is believed to have brought the exchange rate closer to its equilibrium, may provide the right market signals for the private sector to invest in tradable sectors. Going forward, avoiding exchange rate misalignment is key for promoting export sectors' competitiveness and private sector interests in investing in exports.

Facilitate access to affordable and reliable raw materials and intermediate inputs to drive exports. Given that the firm analysis revealed that exporting firms that source intermediate inputs from abroad tend to export more products, facilitating access to raw materials and intermediate inputs is important. The Duty

Figure 38: Imported inputs and export performance



Source: World Bank staff calculations

²⁵ Amiti, M., & Konings, J. (2005).

Pierola Castro, Fernandes, Thomas (2015).

Remission Scheme²⁶ under the EAC Common External Tariff provides avenue for the importation of inputs at zero percent or reduced tariffs however the fiscal impact of such a scheme needs to be analyzed. Comprehensive identification of intermediate inputs and raw materials should be done regularly to take advantage of this scheme.

Focus on agriculture as a strategic sector that provides raw materials for emerging agribusiness, an important source of future export growth with strong impacts on poverty reduction. Agriculture is of strategic importance as a source for inputs for manufacturing sectors where Rwanda has comparative advantages, such as agribusiness and food processing, especially in the context of high transportation costs of imported inputs.

Continue to advocate for the removal of non-tariff barriers that limit export growth to the EAC region since the EAC is the most important export market. Continued engagement at the regional level and through the National Monitoring Committee that is tasked with coordinating the notification and removal of NTBs is needed to address unresolved and future NTBs.

Implement programs to reduce variable costs related to exporting. The firm level analysis revealed that there is dynamism in entry and exit of firms but there are very low survival rates in exporting markets. This suggests that that variable costs of exporting such as energy, trade logistics costs, are equally important as the initial entry costs of discovering the export market. Reducing costs related to exports will facilitate the graduation of firms from SMEs to the top exporters.

Reduce the cost and time of importing and export through improved trade logistics is critical for export growth. Continued infrastructure development coupled with institutional coordination and logistics skills development will contribute to reducing transport and logistics costs. In the last five years, the government has taken significant infrastructure developments and implemented policy changes which have helped to reduce the time and cost of importing and exporting. Rwanda's ratification of the WTO's Trade Facilitation Agreement which entered into force in February 2017, will help to drive more reforms to expedite the movement, release and clearance of goods and to facilitate cooperation between customs and other relevant agencies.

Provide support to enable exporters to utilize AGOA, EBA and other trade preference. The AGOA Implementation Plan provides a good basis to develop capabilities of firms to access this market. There are some encouraging signs as some firms have already moved to invest in Rwanda to export to the US. These success stories needs to be replicated at a larger scale.

Continue efforts to attract FDI. Although local private sector dynamism is key, there is potential to attract FDI that is market seeking. FDI inflows to Rwanda has been increasing from US\$66 million in 2008 to US\$379million in 2015. The highest recipients of FDI inflows in 2015 by sector were ICT with US\$76.7 million, electricity, gas and steam with US\$76.1 million, tourism with US\$66.9 million, and financial and insurance activities with US\$57.9 million. Many investors see Rwanda's potential in accessing market within the EAC and COMESA, as well as the global markets in the US and the EU benefiting from existing trade preference serves.

²⁶ The Duty Remission Scheme is provided for under section 140 of the East African Community Customs Management Act 2004. It permits the import of certain raw materials at a duty rate of different from the set tariff in the CET.

This update also highlights some sector specific insights in coffee, tea and horticulture.

Improve the quality and marketing of tea to move-up the value-chains. Efforts to improve specialty tea should continue as the prices of this type of tea are increasing. Facilitating the relationship between tea factories and estates without-growers to and assure the out-growers are being paid a producer price in line with world market conditions. Initiatives to improve and upgrading quality of production and marketing in order to obtain the best price on the world market should be intensified.

Improve production and increase value addition of coffee exports. Ongoing initiatives including planting of new coffee trees can help to improve crop yield which are currently half of crop yields in Kenya. Increasing full washed coffee is important because it commands a premium on the world market. More investment is needed to increase smaller washing stations that are closer to producers versus the large washing stations that were utilized due to dispersion of coffee

production and high cost of transportation. Surveys need to be conducted of coffee farmers to establish their cost of production and to devise a cost-effective strategy for increasing production. Participation in the coffee futures market to reduce uncertainty of pricing should be explored.

In horticulture, marketing and production potential for specific crops should be identified, economies studied and private sector actors supported to meet the requirements of the market segment. In addition, bringing together horticulture exporters to increase the volume of air shipment will help to reduce airfreight costs. Expansion and upgrading of feeder roads linking collection centers to producing areas will help to preserve the quality and value of horticultural exports. Given the importance of the regional markets, working with small scale cross-border traders to consolidate exports and use streamlined official channels. There is need map the entire value-chain to identify constraints and opportunities in collection, packing, marketing of horticultural products.

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ANNEXES

ANNEX A:

Annex Table A1: Rwanda selected macroeconomic indicators

	2012	2013	2014	2015	2016
	(Annual percentage change, unless otherwise indicated)				
GDP growth rate	8.8	4.7	7.6	8.9	5.9
Agriculture	6.5	3.3	6.6	5.0	3.9
Industry	8.4	9.3	11.0	8.9	6.8
Services	11.6	5.2	7.0	10.4	7.1
Consumer price index					
End of period	3.9	3.6	2.1	4.5	7.3
Period average	6.3	4.2	1.8	2.5	5.7
Money and credit					
Broad money (M3)	34.8	11.1	19.6	30.0	7.8
Credit to the private sector	14.1	15.6	19.0	21.1	7.5
Policy rate (end of period)	7.5	7.0	6.5	6.5	6.3
Exchange rate (Rwf/US\$)					
End of period	631.4	670.1	694.4	747.4	819.8
Period average	614.3	646.7	682.8	720.0	787.8
General government budget¹	(Percent of GDP, unless otherwise indicated)				
Revenue and grants	25.3	23.5	25.8	25.0	24.5
Total revenue	14.3	15.7	16.6	17.7	18.5
Total grants	11.0	7.8	9.1	7.3	5.9
Total expenditure and net lending	26.5	28.4	29.7	29.9	27.9
Current expenditure	14.8	13.5	15.0	14.7	15.1
Capital expenditure	11.6	12.0	13.7	13.6	11.5
Net lending	0.0	2.9	1.0	1.6	1.4
Overall deficit					
Including grants	-1.5	-5.2	-4.2	-4.8	-3.9
Excluding grants	-12.5	-13.0	-13.4	-12.2	-9.8
Financing	1.4	5.2	4.2	4.8	3.9
Foreign financing	2.3	7.2	2.0	3.3	3.6
Domestic financing	-0.9	-2.0	2.2	1.5	0.3
External sector					
Goods exports (goods and services)	15.1	16.8	16.4	18.4	19.0
Goods imports (goods and services)	32.6	32.1	33.2	35.6	37.0
Current account balance	-10.2	-7.3	-11.8	-13.4	-14.4
Gross international reserves (million US\$)	850.3	1,070.0	950.8	922.3	1,001.5

¹ On fiscal year basis (July-June). For example, the column ending in 2012 refers to FY2011/12.

Annex Table A2: Rwanda increased its Doing Business ranking on four indicators

Indicators	Rwanda			EAC regional average
	2017 rank	2016 rank	Change in rank	
Starting a Business	56	59	3	102
Dealing with Construction Permits	158	109	-49	153
Getting Electricity	117	119	2	131
Registering Property	4	12	8	93
Getting Credit	2	2	no change	59
Protecting Minority Investors	102	97	-5	115
Paying Taxes	59	48	-11	107
Trading Across Borders	87	131	44	134
Enforcing Contracts	95	117	22	91
Resolving Insolvency	73	69	-4	103
Overall	56	59	3	110

Source: Doing Business Report, World Bank staff calculation

Annex Table A3: Performance in Rwanda's formal exports

	2012	2013	2014	2015	2016
I. Share of exports					
Traditional products	48.5	50.7	45.7	38.8	29.4
Export crops	21.4	15.7	15.4	19.7	16.4
Coffee	10.3	7.8	8.3	9.1	7.9
Tea	11.1	7.9	7.2	10.6	8.5
Minerals	23.0	32.1	28.1	17.2	11.6
Cassiterite	9.0	8.7	9.9	5.0	4.7
Coltan	9.6	19.1	14.5	9.7	5.3
Wolfram	4.4	4.3	3.7	2.5	1.6
Others	4.1	2.8	2.2	1.9	1.5
Other products	33.2	30.1	31.4	35.2	40.5
Informal cross border exports	17.2	15.6	14.9	15.8	16.4
Reexports	18.3	19.2	22.9	26.0	30.1
II. Change in value					
Traditional products	-5.1	24.2	-7.1	-19.8	-17.4
Export crops	-8.6	-12.8	1.0	20.7	-9.4
Coffee	-18.4	-9.8	8.7	4.0	-5.7
Tea	2.9	-15.6	-6.7	40.0	-12.5
Minerals	-10.1	65.9	-9.9	-42.1	-26.6
Cassiterite	-45.4	15.5	17.8	-52.4	1.6
Coltan	47.5	136.5	-22.1	-36.8	-40.0
Wolfram	63.9	14.4	-11.5	-34.8	-31.5
Others	98.6	-17.0	-19.7	-19.9	-15.9
Other products	56.9	8.1	7.1	6.0	25.3
Informal cross border exports	42.5	7.4	-1.7	0.8	12.6
Reexports	189.8	25.0	22.5	7.6	26.1
Total	27.3	19.0	2.9	-5.5	9.0
III. Change in volume					
Traditional products	4.8	6.8	-3.5	0.5	-5.5
Export crops	0.3	3.9	-5.8	12.5	-1.0
Coffee	89	17.7	-20.1	17.7	-0.8
Tea	-5.4	-6.4	7.9	8.9	-1.1
Minerals	-14.9	27.2	9.3	-30.5	-10.2
Cassiterite	-33.3	5.6	21.6	-35.4	-7.7
Coltan	28.6	115.4	-6.6	-28.3	-23.1
Wolfram	74.0	26.7	-0.2	-19.4	-3.8

	2012	2013	2014	2015	2016
VI. Change in prices					
Traditional products					
Export crops					
Coffee	-25.1	-23.4	36.0	-11.6	-4.9
Tea	8.7	-9.8	-13.5	28.6	-11.5
Minerals					
Cassiterite	-18.1	9.4	-3.1	-26.3	
Coltan	14.7	9.8	-16.6	-11.9	-21.9
Wolfram	-5.8	-9.7	-11.4	-19.1	-28.8

Source: BNR, World Bank staff calculation

Annex Table A4: Government operations: budget and actuals

	FY2015/16				FY2016/17							
	Revised		Actual		Original		Revised		Jul-Dec budget		Jul-Dec prel. actual	
	Billion Rwf	% GDP	Billion Rwf	% GDP	Billion Rwf	% GDP	Billion Rwf	% GDP	Billion Rwf	% GDP	Billion Rwf	% GDP
Revenue and grants	1,479.0	24.1	1,540.0	24.5	1,601.9	23.5	1,567.0	22.9	762.0	22.4	764.3	22.4
Total revenue	1,104.2	18.0	1,166.2	18.5	1,236.6	18.2	1,240.4	18.1	603.4	17.7	599.1	17.6
Tax revenue	975.4	15.9	1,000.3	15.9	1,091.6	16.0	1,101.3	16.1	514.7	15.1	508.7	14.9
Direct taxes	413.7	6.7	406.2	6.5	470.0	6.9	488.5	6.5	197.6	5.8	207.7	6.1
Taxes on goods and services	486.4	7.9	510.3	8.1	542.0	8.0	560.3	8.2	271.2	8.0	258.1	7.6
Taxes on international trade	75.2	1.2	83.9	1.3	79.6	1.2	92.5	1.4	45.9	1.3	42.8	1.3
Non-tax revenue	128.8	2.1	165.9	2.6	145.0	2.1	139.1	2.0	89.0	2.6	90.4	2.7
Total grants	374.8	6.1	373.8	5.9	365.3	5.4	326.6	4.8	158.3	4.6	165.2	4.9
Budgetary grants	205.8	3.3	204.8	3.3	219.3	3.2	180.6	2.6	85.6	2.5	92.5	2.7
Capital grants	168.9	2.7	168.9	2.7	146.0	2.1	146.0	2.1	64.3	1.9	72.8	2.1
Total expenditure and net lending	1,784.9	29.0	1,756.8	27.9	1,848.8	27.1	1,891.3	27.6	901.5	26.5	982.5	26.5
Current expenditure	899.9	14.6	947.5	15.1	989.7	14.5	1,923.6	14.9	488.4	14.3	549.0	16.1
Wages and salaries	226.3	3.7	242.3	3.9	252.1	3.7	258.3	3.8	126.1	3.7	148.1	4.3
Purchases of goods and services	179.8	2.9	180.6	2.9	201.0	3.0	201.0	2.9	88.5	2.6	99.2	2.9
Interest payments	56.1	0.9	56.7	0.9	65.5	1.0	68.6	1.0	34.2	1.0	37.0	1.1
Domestic Int (paid)	26.4	0.4	25.4	0.4	28.6	0.4	30.6	0.4	16.0	0.5	18.6	0.5
External Int (paid)	29.7	0.5	31.3	0.5	36.8	0.5	38.0	0.6	18.2	0.5	18.5	0.5
Transfers	336.9	5.5	308.7	4.9	360.3	5.3	360.3	5.3	161.0	4.7	162.2	4.8
Exceptional social expenditure	100.8	1.6	159.2	2.5	110.8	1.6	135.4	2.0	78.7	2.3	103.4	3.0
Capital expenditure	776.3	12.6	720.8	11.5	750.8	11.0	741.9	10.8	356.5	10.5	109.0	9.1
Domestic	488.5	7.9	446.9	7.1	409.2	6.0	398.0	5.8	181.8	5.3	166.9	4.9
Foreign	278.7	4.7	247.0	4.4	341.4	5.0	343.9	5.0	174.7	5.1	142.1	4.2
Net lending	108.7	1.8	88.4	1.4	108.5	1.6	125.8	1.8	62.7	1.8	43.7	1.3
Change in arrears (not reduction)	-26.4	-0.4	-27.6	-0.4	-20.0	-0.3	-20.0	-0.3	-10.0	-0.3	-12.2	-0.4
Overall deficit (cash basis)												
Including grants	-332.4	-5.4	-244.4	-3.9	-266.9	-3.9	-344.3	-5.0	-149.5	-4.4	-150.4	-4.4
Excluding grants	-707.2	-11.5	-618.2	-9.8	-632.2	-9.3	-670.9	-9.8	-307.8	-9.0	-315.6	-9.3
Foreign financing (net)	239.7	3.9	226.6	3.6	343.8	5.0	350.5	5.1	250.9	7.4	216.9	6.4
Domestic financing	92.7	1.5	17.8	0.3	-76.9	-1.1	-6.3	-0.1	-101.4	-3.0	-66.5	-2.0

ANNEX B: STRUCTURAL TRANSFORMATION AND PRODUCTIVITY PATTERNS

Annex Table B1: Labor force and productivity, 2005-2014

	Labor Force, Thousands		GDP/value added, constant 2014 factors prices (billion Rwf)		Labor Productivity (million Rwf per worker)		Change in Productivity
	2005	2014	2005	2014	2005	2014	2014/2005
Total Value Added	4,488	5,479	2,579	5,089	0.6	0.9	61.65
Agriculture, Fishing and Forestry	3,556	3,704	1,009	1,572	0.3	0.4	49.57
Mining	18	71	93	147	5.2	2.1	(60.20)
Manufacturing	76	110	184	322	2.4	2.9	21.74
Utilities	4	11	37	78	8.3	7.1	(13.74)
Construction	72	279	124	392	1.7	1.4	(18.83)
Transport, Communication and ICT	58	115	99	287	1.7	2.5	46.87
Financial Services	13	16	70	159	5.2	9.7	85.89
Hotels and Restaurants	9	38	55	96	6.1	2.5	(59.19)
Other Services	682	1,134	908	2,036	1.3	1.8	34.75

Source: NISR, World Bank staff calculation

Annex Table B2: Labor Force Breakdown by Economic Sectors, thousands, LFS 2016

	2016
Employed population	2,831
Agriculture, forestry and fishing	1,324
Mining and quarrying	80
Manufacturing	1,324
Electricity, gas, steam, air conditioning supply, water, sewerage and waste	11
Construction	212
Wholesale, retail trade, repair of motor vehicles, motorcycle	399
Transportation and storage	80
Accommodation and food services activities	48
Information and communication	5
Financial and insurance activities	11
Other services	79
Public administration, defense, education, health, arts and other services	291
Activities of households as employs	164

Source: NISR, World Bank staff calculation

Annex B3: Growth Decomposition Methodology

A growth accounting exercise is one of the most commonly used economic tools to decompose sources of growth at a firm or country level. At a country level, the exercise decomposes the contributions of the production factors including capital, labour and productivity to economic growth. More specifically, the exercise enables us to decompose economic growth into a weighted average of the growth rate of labour and capital, and total factor productivity (TFP) as a residual.

This exercise uses the following Cobb-Douglas production function: $Y_t = A_t K_t^\alpha L_t^{(1-\alpha)}$ with α being the capital share of income. This formula shows that changes in output can be caused by changes in capital stock (K_t), the labour force (L_t), the quality of Labor (H_t) and TFP.

The application in Rwanda's context also requires assumptions on the capital share of income (α), the depreciation rate (d), return to average years of schooling (W). Based on various literatures on a growth accounting, the growth accounting exercise for Rwanda assumes that $\alpha = 0.35$, $d = 5$ percent, and $W = 5$ percent.

Source: Rwanda's Economic Growth since 1994

ANNEX C: EXPORT PATTERNS AND DYNAMICS: FIRM-LEVEL EVIDENCE

Annex C1: EXPORT PATTERNS AND DYNAMICS: FIRM-LEVEL EVIDENCE

In order to benchmark the performance of Rwandan exporters relative to the rest of the world, a cross-country regression has been estimated on a panel of country-year exporter dynamics indicators covering the 2006-2014 period including all developing and developed countries available in the Exporter Dynamics Database (EDD). Table C1 displays the results from cross-country regressions where the dependent variables are each of a series of exporter competitiveness and dynamics indicators. The regression controls for the size and the level of development of the country and for time trends. Each regression includes a dummy variable identifying the observations for Rwanda whose coefficient will determine how Rwanda performs relative to the benchmark countries.

Annex Table C1: Benchmarking Rwanda's Export Performance and Dynamics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Log No. of Exporters	Log Average Exporter Size	Log Median Exporter Size	Herfindahl-Hirschman Index	Share of top 1% Exporters	Share of top 5% Exporters	Log No. of Products per Exporter	Log No. of Destinations per Exporter	Firm Entry Rate	Firm Exit Rate	Entrant 1st Year Survival Rate	Share of Entrants in TEV
Rwanda Dummy	0.163* (0.087)	-1.144*** (0.082)	-1.593*** (0.127)	-0.062*** (0.009)	-0.095*** (0.023)	0.024 (0.016)	-0.597*** (0.056)	-0.222*** (0.046)	0.201*** (0.016)	0.157*** (0.015)	-0.121*** (0.017)	0.081*** (0.031)
Log GDP	0.664*** (0.027)	0.210*** (0.026)	0.315*** (0.037)	-0.023*** (0.004)	-0.002 (0.006)	-0.008 (0.005)	0.081*** (0.017)	0.129*** (0.012)	-0.021*** (0.003)	-0.020*** (0.004)	0.021*** (0.004)	-0.006** (0.003)
Log GDP Per Capita	0.190*** (0.030)	0.060** (0.029)	-0.258*** (0.045)	0.002 (0.003)	0.039*** (0.008)	0.029*** (0.006)	0.076*** (0.018)	0.029*** (0.013)	-0.004 (0.005)	-0.003 (0.004)	-0.023*** (0.005)	-0.001 (0.003)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	394	394	388	394	393	388	387	394	357	356	284	357
R-squared	0.848	0.388	0.227	0.208	0.141	0.116	0.328	0.482	0.287	0.224	0.121	0.106

Note: Robust standard errors in brackets. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively.

Annex C2: Export Growth Decomposition

The change in aggregate Rwanda export between year $t-k$ and year t , ΔE_t , can be decomposed into the change due to increases or decreases in export at the existing exporting firms (i.e., intensive margin), the increase due to entry of new exporting firms, and the decrease in the due to the exit of existing exporters.

$$\Delta E_t = \sum_{j \in C} \Delta E_{jt} + \sum_{j \in E} E_{jt} + \sum_{j \in X} E_{jt-k}$$

Where ΔE_t is the change in Rwanda export between year $t-k$ and year t , C is the set of continuing exporters that are active in export markets in both $t-k$ and t , E is the set of entering exporters that are active in export markets in t but not in $t-k$, and X is the set of exiting exporters that are active in export markets in $t-k$ but not in t .

The change in exports shipped by continuing exporters can be further decomposed into new destinations, dropped destinations, and continuing destinations. The decomposition of export growth of continuing firms along the destination dimension

$$\sum_{j \in C} \Delta E_{jt} = \sum_{j \in CD} \Delta E_{jdt} + \sum_{d \in ED} E_{jdt} + \sum_{d \in XD} E_{jdt-k}$$

where $\sum_{j \in C} \Delta E_{jt}$ is the growth in exports of continuing exporters in Rwanda between $t-k$ and t , CD is the set of continued destinations that are served in both $t-k$ and t , ED is the set of new destinations that are served in t but not in $t-k$, and XD is the set of dropped destinations that are served in $t-k$ but not in t .

Finally, the exports of continuing firms in their continued destinations along the product dimension can be decomposed as:

$$\sum_{j \in C} \Delta E_{jt} = \sum_{j \in CD} \Delta E_{jdt} + \sum_{d \in ED} E_{jdt} + \sum_{d \in XD} E_{jdt-k}$$

Where $\sum_{j \in C; d \in CD} \Delta E_{jdt}$ is the growth in exports of continuing exporters in their continued destinations t and $t-k$, CP is the set of continued HSs 4-digit products that are exported in both $t-k$ and t , EP is the set of new products that are exported in t but not in $t-k$, and XP is the set of dropped products that are exported in $t-k$ but not in t .

Annex Table C2: Joint distribution of Rwanda's export across product and destination

		Panel A: Distribution based on number of exporters in 2009							Panel B: Distribution based on value of export in 2009						
		Number of destinations							Number of destinations						
		1	2	3	4-10	11-20	>=20	Total	1	2	3	4-10	11-20	>=20	Total
Number of HS 6 products (%)	1	56.9	5.0	1.0	0.7	0.0	0.0	63.7	5.8	13.2	2.7	1.8	0.0	0.0	23.5
	2	10.8	6.1	0.7	0.9	0.0	0.0	18.4	1.0	5.0	0.7	4.6	0.0	0.0	11.3
	3	3.0	1.7	0.3	0.7	0.0	0.0	5.7	0.2	0.3	0.0	5.0	0.0	0.0	5.5
	4-10	4.9	2.4	1.6	1.9	0.2	0.0	10.9	14.1	1.8	13.6	14.2	0.0	0.0	43.7
	11-20	0.3	0.2	0.2	0.0	0.0	0.2	0.9	0.0	0.1	0.7	0.0	0.0	0.4	1.2
	>=20	0.0	0.0	0.2	0.2	0.0	0.0	0.3	0.0	0.0	0.1	14.7	0.0	0.0	14.8
	Total	75.9	15.5	4.0	4.3	0.2	0.2	100.0	21.1	20.4	17.8	40.3	0.0	0.4	100.0
		Panel C: Distribution based on number of exporters in 2016							Panel D: Distribution based on value of export in 2016						
		Number of destinations							Number of destinations						
		1	2	3	4-10	11-20	>=20	Total	1	2	3	4-10	11-20	>=20	Total
Number of HS 6 products (%)	1	59.2	2.5	0.6	0.4	0.0	0.0	62.7	59.2	2.5	0.6	0.4	0.0	0.0	62.7
	2	12.9	2.9	0.7	1.3	0.1	0.0	17.9	12.9	2.9	0.7	1.3	0.1	0.0	17.9
	3	4.2	1.5	0.7	0.5	0.2	0.0	7.1	4.2	1.5	0.7	0.5	0.2	0.0	7.1
	4-10	5.2	2.8	0.9	1.5	0.0	0.2	10.5	5.2	2.8	0.9	1.5	0.0	0.2	10.5
	11-20	0.7	0.2	0.2	0.5	0.1	0.0	1.7	0.7	0.2	0.2	0.5	0.1	0.0	1.7
	>=20	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.2
	Total	82.3	9.8	3.3	4.1	0.4	0.2	100.0	82.3	9.8	3.3	4.1	0.4	0.2	100.0

Source: NISR, World Bank staff calculation

Annex Table C3: Market share by cohorts

Year	Entrants cohorts							
	2009	2010	2011	2012	2013	2014	2015	2016
2009	1.000							
2010	0.862	0.138						
2011	0.766	0.130	0.104					
2012	0.786	0.129	0.057	0.028				
2013	0.592	0.095	0.077	0.046	0.190			
2014	0.571	0.110	0.037	0.058	0.146	0.077		
2015	0.449	0.115	0.074	0.036	0.168	0.118	0.041	
2016	0.407	0.121	0.035	0.050	0.083	0.154	0.121	0.028

Annex C3: The role of intermediate inputs on export performance – a regression analysis

This section explores the link between imported intermediate inputs and export performance using a regression analysis. The objective is to explore whether firms that are both exporting and importing intermediate inputs differ in terms of a number of export performance indicators – exporter size, export growth, export product scope, market diversification, and export quality (measured by the relative unit prices). All regressions include firm fixed effect to control for time-invariant factors that lead to a correlation between imported intermediate inputs and export. The cyclical effects are also accounted by including year fixed effects.

Table C4 presents the results of the regression. Columns (1-5) of Table 2 report results of the regression of different measures of firm export performance on an indicator whether exporter is also an intermediate input importer, controlling for firm and year fixed effects. The result suggests that, on average, firms that increase their reliance on intermediate inputs tend to expand their product scope, measured by firm-level count of unique HS 6 products. The result also suggests that firms importing intermediate inputs tend to expand their destination markets. Import of intermediate input does appear to affect export growth and quality of export, measured by the relative price export products.

The effect of intermediate imports on firm-export performance may depend not only on the trade status but also the level of intermediate input sourcing. Thus, limiting the analysis to binary import status may mask important heterogeneity among exporting firms. The figure below displays a kernel density estimate of the distribution of intermediate input imports across exporting firms. As shown in the figure, exporting firms differ significantly in terms of the level of their imported intermediate inputs. To account for this heterogeneity, Columns (6-10) reports regression results where a continuous variable, logarithm of value of intermediate inputs, is used instead of importer-exporter status dummy. The results are generally consistent with the findings with the binary trade status indicator. A greater use of intermediate inputs is associated with higher value of export.

²⁷ Estimating the causal effects of imported intermediate inputs on firm-level export outcome is notoriously difficult. One of the empirical challenges is that the decision to import and export may be jointly determined. The decision to import and export may be affected by change in firm's observed and unobserved characteristics. For example, it is possible that the decision to import intermediate input is likely to be correlated with other firm characteristics that can independently increase export performance. If such things exist, the estimation may be misleading. The effect of intermediate imports on export outcome is thus subject to concerns with endogeneity and reverse causality. Although the fixed effect estimation circumvents the time-invariant heterogeneity, it is possible that the result may be biased due to the time varying confounders. In view of these concerns, the results should be interpreted as a correlation rather causality.

Annex Table C4: Intermediate Input Importers and Export Performance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Log Value of Export	Number of Export Products	Number of Export Destinations	Export Growth (Normalized)	Export Price	Log Value of Export	Number of Export Destinations	Number of Export Products	Export Growth (Normalized)	Export Price
Exporter-Importer Dummy	0.259*** (0.097)	0.335** (0.158)	0.159*** (0.059)	0.054 (0.092)	0.075 (0.049)					
Log (Import value+1)						0.039*** (0.011)	0.020** (0.008)	0.047*** (0.017)	0.017 (0.011)	0.002 (0.005)
Year FE Observations	Yes 8383	Yes 8410	Yes 8383	Yes 3912	Yes 8410	Yes 8383	Yes 8383	Yes 8410	Yes 3912	Yes 8410
R-squared	0.008	0.031	0.015	0.034	0.002	0.010	0.016	0.032	0.035	0.001

Note: All regression results include firm fixed effect to account of time-invariant firm heterogeneity. Exporter-Importer Dummy is a dummy variable for current exporter-importer status, which takes 1 if the firm is a two-way trader in year t and 0 otherwise. One is added to the total value of import in order to avoid omitting pure exporters from the analysis due to log transformation.

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