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### **Rwanda**

From devastation to services-first transformation

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**Abstract:** Since civil war and genocide left the country in ruins, Rwanda has undergone a remarkable transformation. Growth rates since 1995 have averaged 8 per cent annually, poverty rates have fallen, maternal and child health have improved, and infrastructure and public institutions have been rebuilt. This article examines the determinants of the growth path of the Rwandan economy, focusing on: the central role of government; the structural transformation of the economy; the role of exports and foreign investment; and particularly the role of ‘industries without smokestacks’. Policy coherence, together with substantial international support, allowed Rwanda to embark on a growth path.

**Keywords:** Africa, economic growth, exports, structural transformation

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## 1 Introduction

Rwanda has undergone an astounding transformation in the two decades since a civil war and massive genocide destroyed a large segment of the country's population, left its government and political institutions in tatters, and its economy in ruins. Growth rates since 1995—the year after the genocide—have averaged 8 per cent annually over this period, more than four times the decade before. Poverty rates have fallen, maternal health has improved, and infant mortality has plummeted. Investments in infrastructure have produced transport systems, widened access to power, and provided cheap telecommunications. Once shattered institutions of government—the customs services, standards agencies, telecoms regulation, and whole ministries—have been rebuilt and gained a reputation for efficiency and probity in administration that is today the envy of Africa.

To be sure, the country has not yet established political institutions commonly associated with Western democracies. Even so, the government has sought to create other forms of citizen feedback that facilitate some policy adjustments. These include the annual 'national dialogue', citizen report cards, and a fairly open public discussion of aspects of economic policy. A wide literature has documented the post-genocide transitions, their success and shortcomings (see Crisafulli and Redmond 2012; Kinzer 2008). However, the transformation in people's lives and living standards has been remarkable.

How was it that a country could go from utter devastation into a high growth economy? What were the building blocks of policy that contributed to this success—and what was the role of structural transformation? And, looking forward in a new era of globalization, what economic activities can drive growth in Rwanda into the next decade? The answers can be found in examining the growth path of the Rwandan economy. Four features stand out: First, the government has played a leading role in recovery and reconstruction period, and continues to do so today. Second, labour is indeed moving from low-productivity jobs into higher productivity activities—structural transformation—but Rwanda has inverted the normal sequence of structural change in the development process; labour is moving from agriculture first to services and only now beginning to develop its manufacturing sector. Third, the government succeeded in establishing an impressive partnership with the international community that allowed the latter to provide finance and expertise to drive growth, but foreign direct investment (FDI) in recent years is beginning to play a more central role—particularly in industries without smokestacks. Finally, these industries without smokestacks—services exports, agro-processing, information and communication technology (ICT) and selective labour-intensive manufactures—are becoming an increasingly important driver of growth.

To elaborate these points, the first section of this paper describes briefly the pre-1994 policy regime and political economy to illuminate the difficulties of reconciling a country torn apart by civil and tribal war. The second section reviews economic policy and outcomes in the two decades after 1995. It argues that policy coherence emerging from unusually capable leadership lies at the foundation of Rwanda's success. The third section analyses the patterns of growth peculiar to Rwanda—and finds that Rwanda is indeed engaged in structural transformation, but mainly by releasing labour from low-productivity jobs into higher productivity jobs in the services sector, mainly in cities. The international community has played a pivotal role by providing official development assistance (ODA)—and Rwandans have used ODA wisely to build infrastructure, upgrade urban services, and invest in agriculture. The final section focuses on the future, outlining the new industrial policies undertaken by the government and ways it is dealing with the challenges of diversification.

## 2 Rwanda: a brief history

### 2.1 From independence to 1994

Rwanda became an independent country after breaking away from the Belgian-controlled Ruanda-Urundi territory in 1962. Strife-torn elections brought to power the Hutus, over throwing the comprador tribal class of Tutsis, who were a favoured minority of the colonial powers. President Gregoire Kayibanda stirred ethnic conflicts, and in a forerunner to the genocide that was to come, unleashed periodic massive killing of Tutsis. Many Tutsis—including the family of Paul Kagame—fled into neighbouring Uganda and the Democratic Republic of Congo (DRC) in the 1950s. In 1973, army general Juvenal Habyarimana toppled Kayibanda's regime, and proceeded to rule the country for the next 21 years, with no less repressive treatment of the Tutsi minority. In 1986, Habyarimana issued a presidential order preventing the return of Rwandan refugees, a policy that led Tutsi refugees to form the Rwanda Patriotic Front (RPF), a rebel movement that fought against his regime.

A failed Tutsi-led coup in 1990 culminated in the Hutu Ten Commandments, in which President Habyarimana ordered fresh killing of Tutsis and recruited youths into a militia group, the *Interahamwe*—those who banded together to terrorize Tutsis. Succumbing to international pressure to make peace with the RPF, Habyarimana signed a ceasefire agreement in 1993, in what became known as the Arusha Accord, which, among other things, would have allowed the return of refugees. This and subsequent peace negotiations angered Hutu extremists in the regime. Habyarimana's regime ended when his plane was shot down on 6 April 1994 on his return from Arusha where he had signed a peace agreement with the RPF. On 29 April 1994, a national radio station announced 5 May as 'clean-up day' on which the capital Kigali was to be 'cleaned' of all Tutsis. This was the trigger of the massive genocide that saw some 800,000 people slaughtered and drove nearly 2 million others to flee to then-Zaire, Tanzania, and Burundi between April and July.

Early post-independence policy had encouraged foreign investment and used public intervention to stimulate local production. The government, in partnership with foreign investors, created several tea plantation and factories. Industries typical of small landlocked countries were born in the period 1962–75, including beer, soaps, cosmetics, furniture, some light textiles, and grain milling (Gathani and Stoelinga 2012). Although the birth and expansion of the tea sector drove overall growth, later followed by the expansion of coffee, import substitution industrialization led to expansion of some manufacturing. Gross domestic product (GDP) growth averaged 6.5 per cent between 1973 and 1980.

By the mid-1980s, however, the export dynamism of the commodity boom dissipated and the government was reluctant to depreciate the currency, so the Rwanda franc became progressively overvalued. The government reacted with import licensing arrangements, high import tariffs, and price controls. Economic growth slipped perilously close to five years of growth recession, averaging 2.9 per cent in 1980–85, barely keeping up with population growth.

Deteriorating growth led to more state intervention and further growth erosion. Further declines in commodity prices at the end of the 1980s, and the beginning of the civil war in 1990/91 led to further budgetary pressures, price controls, and distortions. The implementation of two International Monetary Fund (IMF) programmes included massive devaluations and the abolition of official prices and controls, and these necessarily created a wave of price surges that severely undercut salaries and consumer purchasing power. The civil war culminated in the April–July 1994 genocide, and the economy contracted by 50.2 per cent. Businesses and infrastructure were destroyed, agricultural production ceased, and the loss in capital was only exceeded by the loss in human lives.

## 2.2 From reconstruction to economic expansion, 1995–2000

While the 15 years before 1995 had averaged less than 1 per cent in economic growth, the five years to 2000 produced a rapid recovery and averaged more than 10 per cent. Some part of this growth was a simple peace dividend associated with the reconstitution of agricultural markets and internal trade. But because of the vast destruction of capital and infrastructure, and the loss of human skills, reconstruction was a far more ambitious and complex task. Elements included establishing social peace, providing emergency relief, and rebuilding and staffing the institutions of government, particularly fiscal capacity. Central to these efforts was putting in place a coherent macroeconomic programme genuinely owned by the government. Even though it involved a greater degree of state leadership than many donors would have preferred, the absence of large private companies and paucity of wealthy entrepreneurs led them to accept a large role for government, and they provided substantial development finance and technical assistance. Rwanda was to become a textbook case of how to orchestrate a successful post-conflict reconstruction.<sup>1</sup>

The government undertook several measures to revive the economy and restore industrial production. Foreign exchange markets were liberalized, allowing exchange bureaus and commercial banks to exchange foreign currencies at market-determined rates, a move partly aimed at easing access to foreign currencies by the emerging private exporters. The government also pursued liberalization of coffee marketing, processing, and export, removed export taxes and improved the export regulatory framework to allow for market-based transactions and revive the coffee sector, a major source of foreign exchange. Price controls were terminated and state enterprises adjusted relative prices to phase out subsidies.

Political leadership was crucial. The provisional government of the RPF launched new efforts to build national unity, focusing on equal representation in parliament and elimination of ethnic identity cards that had been used since colonial times. Ethnic reconciliation and rehabilitation of social norms were necessary to lay the foundation for economic recovery, which had become an immediate priority as massive destruction of farms, livestock and economic infrastructure during the civil strife had decelerated the country's economic growth. The government immediately began to work for the eventual repatriation of some 2 million ethnic Hutus who had fled into the DRC in the wake of the RPF takeover.

The strong leadership under the RPF and sound policies attracted donor support and eventually revived investor confidence in the reconstruction agenda. In the aftermath of the civil war and genocide—mid-1994 to late 1995—donor assistance largely focused on emergency needs; approximately US\$300 million was directed to humanitarian relief efforts in Rwanda and refugee camps in neighbouring Uganda, Congo, Tanzania, and Burundi, where Rwandan refugees had fled during the civil conflict. As the emergency subsided, donors worked with the government to help gradually reconstruct economic and social institutions. Foreign aid shifted from humanitarian relief to reconstruction and development assistance to rebuild a strong economic and institutional base, with focal attention on addressing the country's needs in education, health, water, energy, transport, and communication infrastructure. These paved the way for policy reforms that included revamping the public investment programme, streamlining administrative structures, and compiling economic statistics.

The government, even while taking a leading role in economic activity, encouraged the growth of private investment. A new investment code and one-stop investment promotion centre were also

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<sup>1</sup> The IMF, in its paper on post-conflict reconstruction, uses Rwanda as a key example illuminating best principles (see Gelbhard et al. 2015).

established in 1998 to provide a conducive investment environment for both local and foreign investors. Forms of technical and financial assistance were also initiated, including loan guarantees and liberalization of selected economic sectors to attract private investment. The government launched a partial sell-off of state-owned enterprises that had largely dominated industry in the year before the civil war. The privatization campaign reached its peak in the period 1998–2000, when 55 state enterprises were earmarked for privatization; among these were coffee and tea factories, public utilities, and the state-owned telecommunications company, Rwandatel. Private investment in the mining sector culminated in tremendous increases in the production of cassiterite and coltan, with the latter increasing from 147 tonnes in 1999 to 1,300 tonnes in 2000, constituting the country's largest single export at the turn of the century.

The financial policy measures taken by the government during the recovery process were remarkably successful; GDP, which had declined by half in 1994, grew by over 35 per cent in 1995 and sustained an average growth above 10 per cent per year in the subsequent five-year period. During the same period, inflation reduced substantially from 64 per cent in 1994 to 9 per cent in 1996, before food demand from returning refugees and insecurity in some food-producing regions caused inflation to skyrocket to 17 per cent in 1997. Foreign aid had financed much of the recovery and development agenda, posing a risk to its stability and sustainability. In partial response to this challenge, the government pursued a prudent fiscal policy to raise domestic revenue through adjustment of tax rates and reforming tax and customs administration, ultimately raising the revenue-to-GDP ratio from 4 per cent in 1994 to 10 per cent in 1997. As part of the efforts to reduce the prevailing large budget deficit, public spending was cut by banning purchase of government vehicles, and limiting budget allocations for ministerial travels, among other measures. The enhanced revenue performance was partly responsible for the increase in government savings in the 1998–2000 period. The country grew by an average of 10 per cent annually from 1996 through 2000.

### **3 From recovery to sustained growth: politics, policy, and performance, 2000–15**

In 2000, Paul Kagame, then Vice President and head of the army since 1994, became President after the resignation of Pasteur Bizimungu. Following the adoption of a new constitution in 2003 that established a parliament and presidential system, Kagame won subsequent election victories to serve seven-year terms in 2003 and again in 2010. Further political developments were undertaken, including improvements in the *gacaca* system (public hearings for alleged genocide perpetrators), with the aim of achieving faster reconciliation and restoring Rwanda's social fabric that was torn apart by the civil war and genocide. There was also progress in decentralization up to the sector level in order to bring services closer to the people and improve the service delivery channel.<sup>2</sup> The country ensured equal political representation for women; female representation in the parliament has been over 60 per cent since 2003, one of the highest in Africa. Although Rwanda has not implanted OECD-style democratic principles, the country has made strides in forging a national Rwandan identity out of two formerly warring ethnic groups, created opportunities for all ethnic groups in governance (Government of Rwanda and World Bank 2008), has created one of the most corruption-free countries in Africa (see Transparency International various years), and established a highly ranked legal and regulatory environment (see World Bank 2016b).

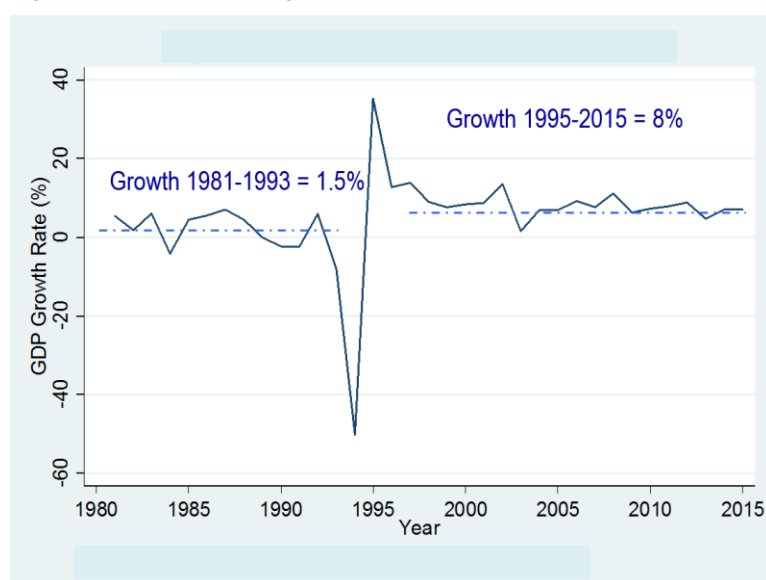
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<sup>2</sup> Sector (sub-district) is the third smallest unit of administration after village and cell.

### 3.1 Economic growth accelerates ... and improves people's lives

Stable politics, prudent macroeconomic management, and a sound investment climate laid the groundwork for a dramatic turnaround in economic and social performance. Economic growth accelerated to a new plateau of growth (Figure 1). Rwanda has been cited among top performers in the World Bank's Doing Business indicators. For example, the number of days it takes to register a business reduced substantially from 40 to 16 between 2003 and 2008. Economic growth from 1995 to 2015 averaged 8.2 per cent annually, some four times the growth rate of the previous decade. Per capita incomes rose dramatically—in effect giving the average Rwandan an average annual pay raise of more than 5 per cent year for two decades.

Figure 1: Rwanda's GDP growth 1981–2015

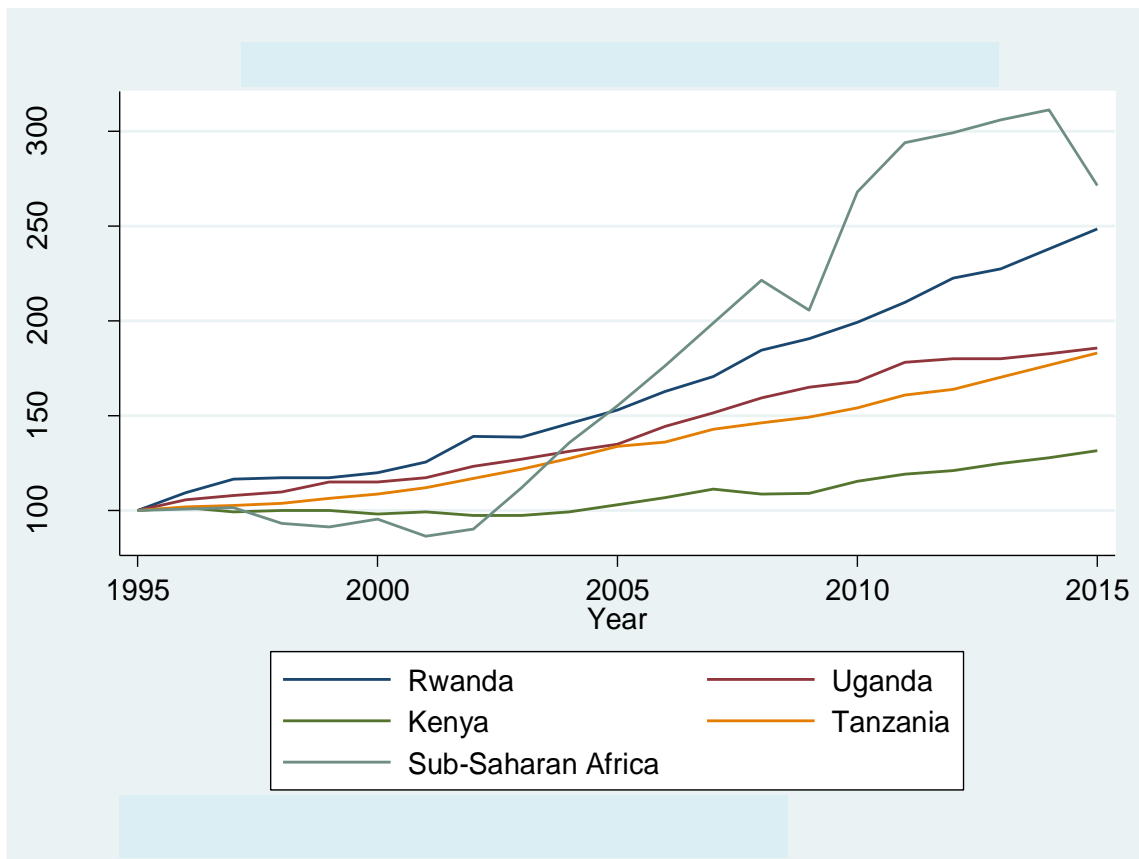


Source: World Bank, World Development Indicators (WDI).

Even discounting the rebound effects immediately after the devastation of 1994, Rwandan growth has been substantially better compared to many comparator countries in the region, including long-running star performers like Botswana. Figure 2 shows the implied catch-up in per capita incomes that Rwanda has managed to achieve.

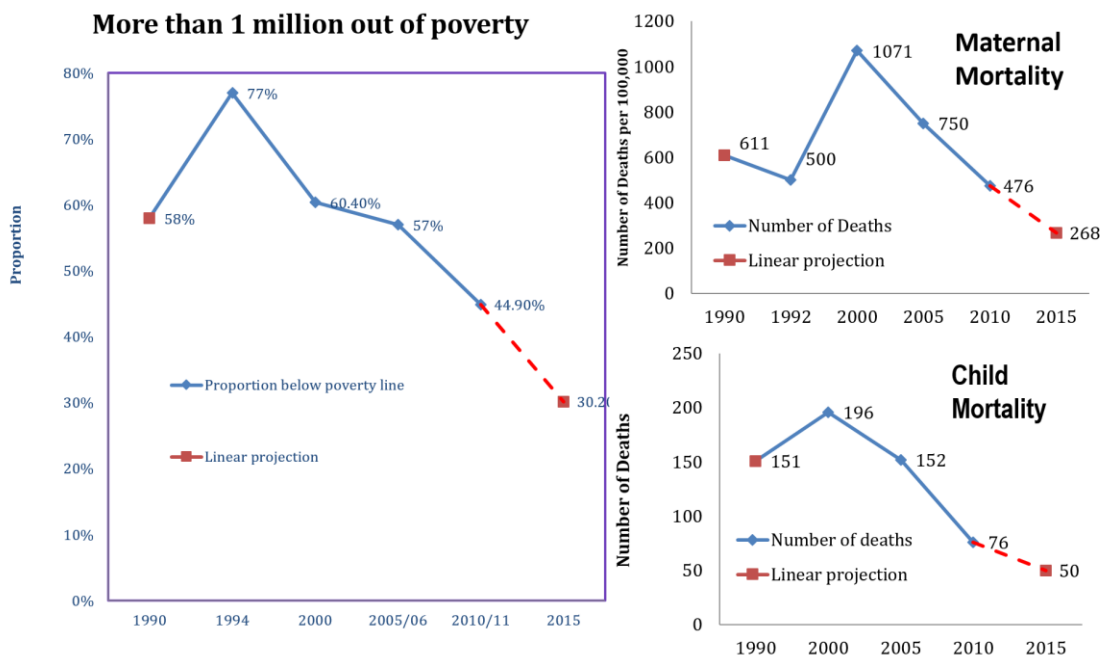
The proportion of people living below the national poverty line declined from 60.6 per cent in 2001 to 56.7 per cent in 2005, further reducing to 44.9 per cent in 2010 and 39.4 in 2014 (Figure 3). Besides poverty reduction, the government of Rwanda pursued inclusive growth policies, resulting in a reduction in inequality, measured by the Gini coefficient, from 0.52 in 2006 to 0.49 in 2011. Growth in agricultural production contributed 35 per cent of the poverty reduction between 2004 and 2014 while 10 per cent of the reduction came from increased commercialization (World Bank 2015).

Figure 2: Rwanda's rising average income



Source: IGC (International Growth Centre) staff based on WITS, WDI and UNCTAD (UN Conference on Trade Development) data.

Figure 3: Dramatic improvement in the lives of Rwandans facilitated by growth



Source: Minecofin (Ministry of Finance and Economic Planning).



### 3.2 The critical role of foreign savings

Foreign savings have been an important source of investment finance. Over the period 2000 to 2015, foreign savings amount accounted for about 78 per cent of investment finance.<sup>3</sup> Of these foreign savings, the greatest percentage originated in ODA. In the wake of the genocide, the international community provided about US\$400 million annually for the rest of the decade; the number rose steadily to average \$629 million in 2001–10; and then to \$1.1 billion in 2011–14.

What differentiates Rwanda from most other aid recipients is how well the country has used development assistance. Because of its low levels of corruption—Rwanda ranks fourth best in Africa on the Transparency International Corruption Index behind only Botswana and the two island states of Cape Verde and Seychelles, and just ahead of Mauritius—and its capacity to implement a public investment programme, Rwanda has managed to channel virtually all of foreign savings into productive investment.

The government used these foreign savings first to rebuild buildings and infrastructure destroyed in the genocide; it soon established a network of schools, hospitals, and rural clinics; then critical infrastructure, including roads and power, and later major airport renovations and nationwide internet fibre optic cables. With large entrepreneurs, the government took the lead in investing in selected economic activities, ranging from hotels to dairy. These investments entailed a massive construction effort and led to new investments in services that would launch a remarkable structural transformation.

### 3.3 Policy, planning, and public investment: the centrality of government

These results, remarkable in an African context, did not come easily. They were the result of coherent programmes and steady day-to-day attention to implementation of government policy and public investment, much of it with donor-supported projects. Central to this success was a multidimensional planning process, coupled with a system of monitoring actual implementation and performance contracts throughout the civil service.

Rwanda has a hierarchy of strategies that have informed policy (Figure 4). Vision 2020 is the long-term strategy; adopted in 2000, it aspired to bring the country to middle-income status by 2020, and has served as a foundation for the many subsequent medium- and short-term strategies and policies. It was constructed on six pillars, emphasizing productivity, trade, and building state institutions.<sup>4</sup>

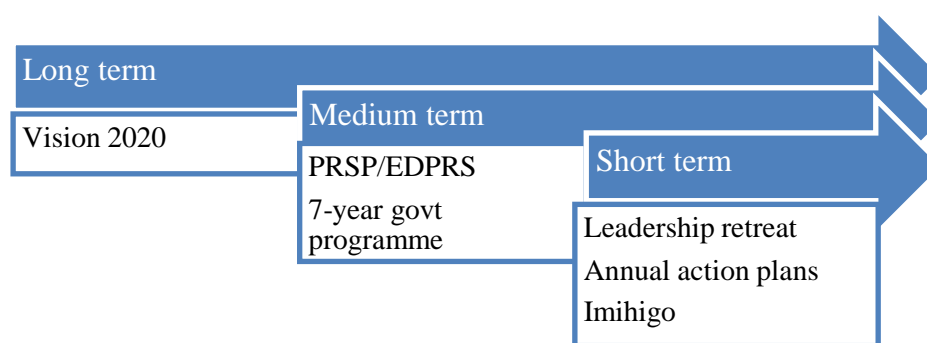
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<sup>3</sup> The numbers in this paragraph are calculated from the World Development Indicators.

<sup>4</sup> These were:

(i) transformation of agriculture into a productive, high value, market oriented sector, with forward linkages to other sectors; (ii) development of an efficient private sector spearheaded by competitiveness and entrepreneurship; (iii) infrastructural development, entailing improved transport links, energy and water supplies and ICT networks; and (iv) promotion of Regional Economic Integration and Co-operation; (v) reconstruction of the nation and its social capital anchored on good governance, underpinned by a capable state; and (vi) comprehensive human resources development, encompassing education, health, and ICT skills aimed at public sector, private sector and civil society. (Government of Rwanda 2000)

Figure 4: Rwanda's hierarchy of planning and implementation strategies



Source: Newfarmer et al. (2013).

Soon after the adoption of the Vision 2020 strategy, the first Poverty Reduction Strategy Paper (PRSP) in 2002 laid out several specific economic and social reforms. One of the major objectives of this policy commitment was to reduce the poverty ratio from 60 per cent to 25 per cent and raise per capita incomes from US\$250 to US\$1,000. The implementation of the PRSP was to focus on priority sectors of agriculture, education, human development, and economic infrastructure, with cross-cutting efforts on human resources and capacity building, private sector development, and governance. This was later followed with the first Economic Development and Poverty Reduction Strategy (EDPRS1), which was implemented between 2008 and 2012, centred on sustainable growth for jobs and exports, as well as accelerated poverty reduction through public works, promotion of cooperatives, credit, and direct support to the rural poor. The third programme focused on promoting regional comparative advantage and good governance, especially by reducing the incidence of corruption. In 2012, the government launched the second EDPRS, to be implemented in the years to 2018.

Of the 73 targets proposed in the EDPRS1, 25 could be interpreted as being industrial policies focused on structural transformation and trade, including export growth, development of the financial system, measures to raise agricultural productivity, and infrastructure (power, roads and ICT). To achieve the export growth target, the EDPRS also set out specific programmes for each of four leading exports (tea, coffee, minerals, and tourism), designed to increase productivity, volume, and quality; these numbered 24 in total.<sup>5</sup>

Over this period, the government developed a sophisticated system of monitoring its own progress in achieving targets, and implementing reforms and public investment. It now evaluates its own performance through four main channels that cascade down from general and comprehensive indicators economy-wide to specific and focused ones at the ministerial and project level, often with donor support and participation:

- The government has organized 12 Sector Working Groups (SWGs) to monitor delivery on the EDPRS and other indicators for each sector, usually with the participation of donors financing parts of the SWG's programme. Progress is reported back to the Ministry of Finance (and eventually to participating development partners).

<sup>5</sup> This section is adapted from Newfarmer et al. (2013).

- The government organizes an Annual Leadership Retreat where top levels of the government discuss the most pressing cross-cutting constraints, monitor progress on commitments taken in this forum, and outline plans for the coming year.
- The Annual Action Plans (AAPs), derived from sectoral plans, and other commitments are monitored by the Office of the Prime Minister. Each institution produces an Annual Performance Report that provides information on the achievement of pre-set targets.
- In parallel, in a process that is becoming more and more streamlined, ministers are expected to deliver on ‘Imhigo’ performance contracts, indicators for which are closely tied to the AAPs.

This system was central to the growth achievements because, with a small and relatively weak private sector, the government has had to take a leading role not only in infrastructure development but also in developing and promoting productive activities. Central to this has been an ambitious programme of public investment.

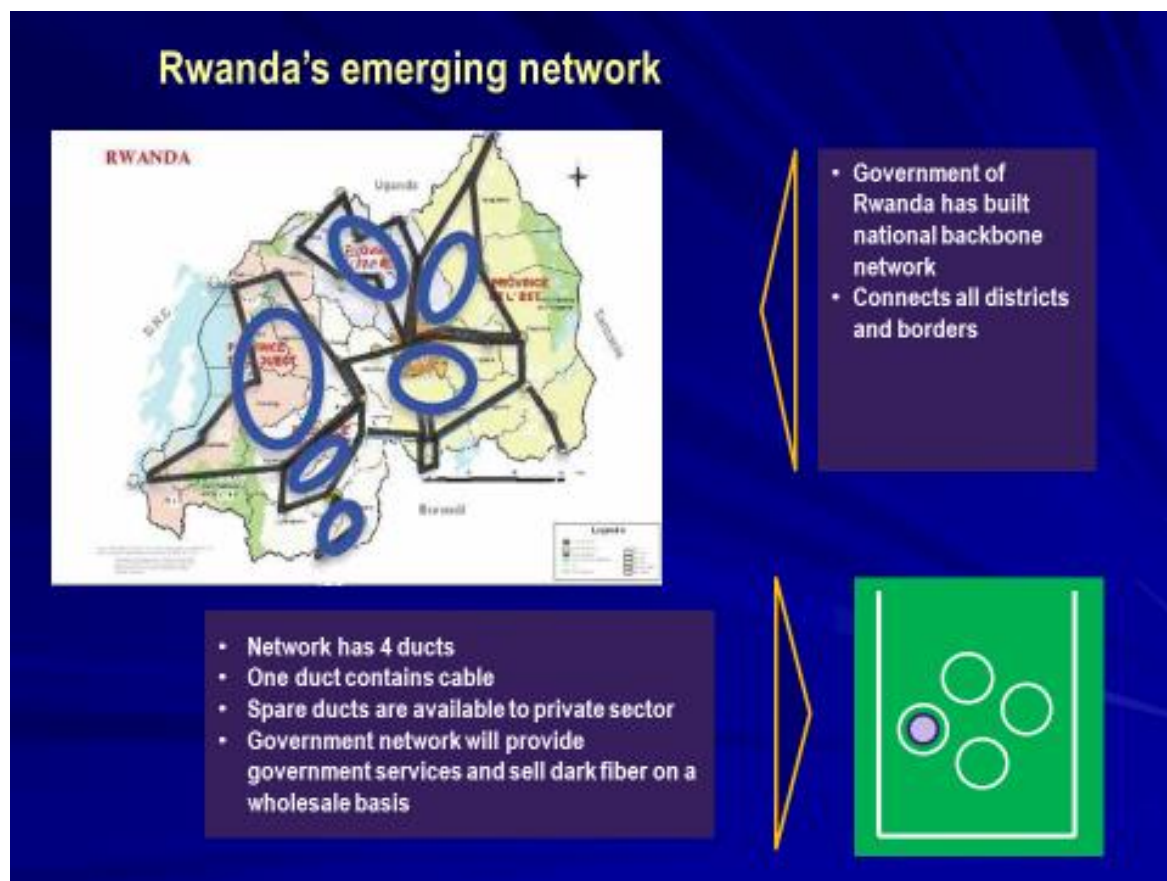
### **3.4 Public investment: a leading sector**

One reason why workers were able to find jobs outside of agriculture was the steady efforts of the government to invest in economy activities. Public investment typically comprised half or more of all investment in Rwanda in this two decades of growth. Using finance provided in large measure by development assistance, the government took the lead in investing in roads, electric power, fixed-line telecommunications, and later the internet backbone, as well as schools and hospitals. One example is the government’s early decision to build the internet backbone that would link up virtually the whole country—and lay the basis for access to the global lines connected up via the EASSy (Eastern Africa Submarine Cable System) cable through Uganda and Tanzania (Figure 5).

Recently, the government has devoted resources to expanding the electrical grid, built a large convention centre to tap into the MICE (meetings, incentives, conferences, and events) business tourism, invested in new aeroplanes to make RwandAir into a regional carrier, and substantially upgraded and renovated the existing airport. It has continued to push forward plans to build a railroad connection through Uganda and Kenya to the coast, and bought land to eventually build a new airport.

Aside from these large projects, the government has provided a steady flow public investment in urban infrastructure, particularly in Kigali, and in agriculture, notably in irrigation and terracing. It has used two state-owned companies—Crystal Ventures and Horizon—to invest in productive activities to develop the market. Some activities, such as the Serena Hotel in Kigali, have later been privatized, but these two companies maintain a portfolio of commercial activities, including, for example, dairy. In recent years, the government has turned its attention to leveraging its investments through public–private partnerships. For example, the government has signed several memoranda of understanding (MOUs) with private power developers to build generation capacity. In summary, these investments have been a driving force in economic growth.

Figure 5: Connectivity expands to the whole country



Source: Newfarmer (2011).

To a large extent, public investment explains the substantial growth in industry, particularly construction. Whether it was road construction, urban infrastructure, or digging trenches for internet cables, all were labour-intensive activities that have contributed to growth and productivity gains.

#### 4 Patterns of growth: services before manufacturing

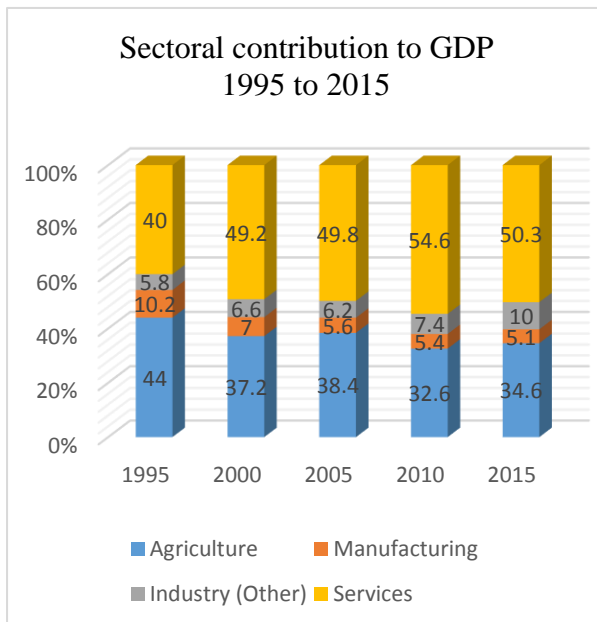
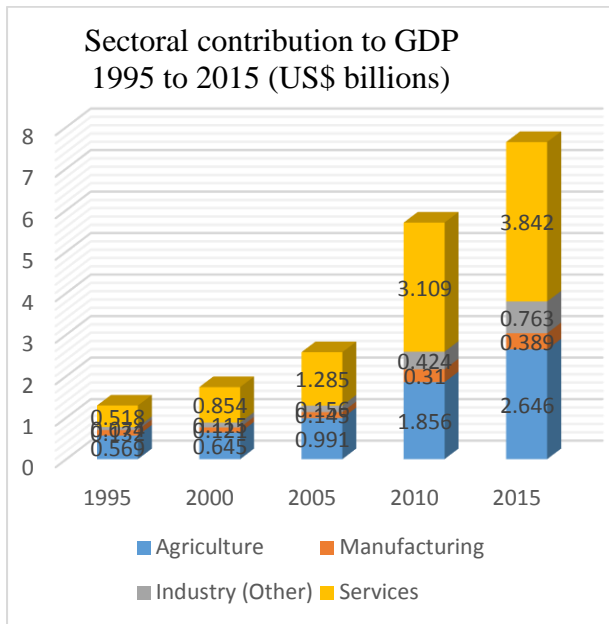
Delving deeper into the underlying patterns of growth in Rwanda reveals patterns that are both unusual and that signal challenges to future growth. Three patterns stand out: first, the recovery of agriculture provided a major growth impulse during the immediate years after the genocide, and recovery of consumption provided greater impetus than investment; second, the country invested in services in advance of manufacturing, and services became a leading sector in growth for much of the last two decades; and, finally, exports, though not a principal source of growth in the early period, have become more diversified and more important in the latter period.

In the period of reconstruction in the late 1990s, it was logical that rising private consumption would be one driver of growth. Even though, after 2000, investment and exports began to assume a new importance, rising private consumption remained important. In a way this is to be expected because of the high levels of subsistence poverty prevalent in Rwanda.

But the composition of GDP changed dramatically relative to 1990. Industry, exclusive of manufacturing, led the growth dynamic, with services not far behind (Figure 6). Non-

manufacturing industry reflected growth in mining, electricity and construction. These sectors stimulated services inputs such as engineering, architectural and legal services. Services also provide inputs into other activities as the economy expanded—particularly high value-added services such as telecommunication and finance. Retail trade and informal employment in urban services have absorbed many low skilled workers. Only later has the export of services become important, notably tourism. Bridging both the export and domestic market, transport too has increased substantially. Finally, service growth also reflects the steady growth of government itself.

Figure 6: Agriculture gave way to services and industry as drivers of growth



Source: World Bank, WDI (accessed November 2016).

Steady increases in agricultural yields among domestic and export crops facilitated the sector's expansion. Tea and coffee grew relatively rapidly—at times aided by high prices after 2003 and until 2015. There were also increases in domestic yields of food crops, in part powered on the supply side by increased investments in fertilizer and on the demand side by greater integration of the domestic market. The implementation of the National Agriculture Policy since 2004 and the Strategic Plan for the Implementation of Agriculture in Rwanda resulted in massive increases in yields for the main food crops; 225 per cent for maize, 129 per cent for wheat, 90 per cent for cassava, 66 per cent for potatoes, 62 per cent for beans, and 34 per cent for rice. In order to accelerate poverty reduction, especially among the rural poor, government priorities were centred on the diversification of rural incomes into non-farm activities, which contributed 16 per cent of the poverty reduction achieved in the past decade (World Bank 2013).

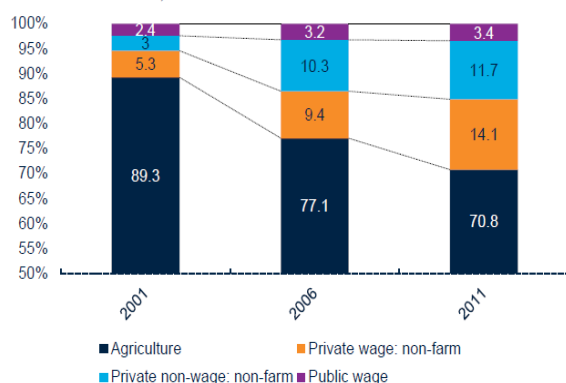
Manufacturing receded in importance in GDP. This was the result of a surge in growth in the other sectors that simply out-distanced the small manufacturing sector, but no doubt too the unwinding of the very high levels of protection at the end of the import substitution period in the early 1990s also contributed to its relative contraction.<sup>6</sup> The dominant structural transformation was to occur in agriculture and in services growth.

#### 4.1 Structural transformation: out of agriculture, into services

As the process of urbanization and growth has accelerated over the two decades since 1995, a conventional picture of agriculture releasing employment to the urban wage sector has clearly become evident. Although recent information is not yet available, agriculture's share of total employment has fallen from 89 per cent in 2001 to 71 per cent in 2011 (Figure 7). Meanwhile, non-wage employment grew rapidly in both services and, to a lesser extent, industry (Figures 8a and 8b). Many of the new jobs were in the self-employed sector, amounting to 12 per cent in 2011, up four-fold from 2001. The private wage sector grew to constitute 14 per cent of total employment.

Figure 7: Structural transformation: out of agriculture, into services

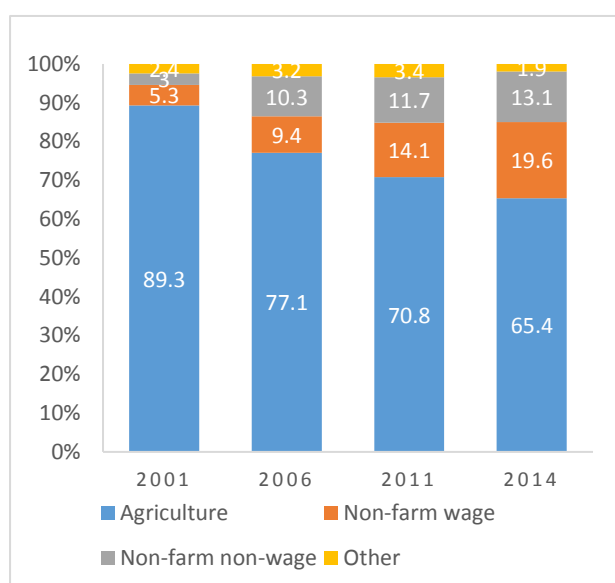
(category of main employment as a share of total employment, 2001-2006-2011)



Source: World Bank (2016a).

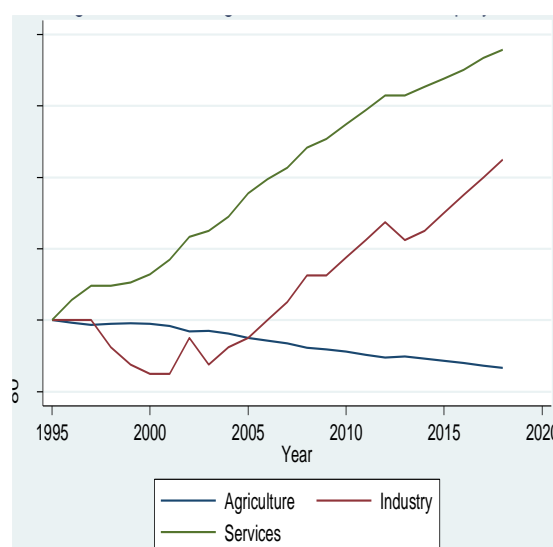
<sup>6</sup> See the discussion of Gathani and Stoelinga (2012) for a concise but comprehensive discussion of the pre-1995 policy regime.

Figure 8(a): Category of main Employment as a share of total employment (2001–14)



Source: English et al. (2016).

Figure 8(b): Sector contribution to employment (1995–2015)



Source: World Bank, WDI.

Of the 8 per cent annual growth in the 2006–11 period, the World Bank calculated that about half was due to increases in output per worker (4 per cent) and about half due to increases in employment (3.9 per cent). The increase in labour productivity, according to World Bank calculations, was virtually all associated with these inter-sectoral shifts—structural transformation. Some 90 per cent of the total gain in labour productivity during this period was associated with movement out of agriculture (Figure 9). Using a Shapley decomposition methodology of labour productivity changes (i.e. output per worker), the World Bank calculated that, besides the dominant role for inter-sectoral shifts, increases in the capital–labour ratio accounted for 51 per cent while total factor productivity (TFP), the residual, decreased by 41 per cent (World Bank 2016a).

This increase in labour productivity has been accompanied by a change in employment patterns. Particularly striking was the proliferation of off-farm part-time employment. In 2006, only 9 per cent of farmers had secondary employment outside of agriculture; that figure a mere five years later had jumped to 21 per cent (Figure 9b). By 2011, 45 per cent of all workers—farmers and non-farmers—had moved completely out of agriculture, up from 30 per cent in 2006 who at least had a secondary job in agriculture (see World Bank 2016a). These are rough calculations and do not take into account many intervening variables, however, they do illuminate the fast pace of structural change in Rwanda.

Services productivity has generally outpaced productivity growth in the rest of the economy. The Overseas Development Institute, decomposing annual productivity growth from 1991 to 2013, calculated that services were responsible for more than 90 per cent of the annual growth in labour output during that period.<sup>7</sup> Services were clearly a driving force of growth during this period. This is also evident in the sample of firms studied by Spray and Wolf (2016). They found that average output per worker was 21 per cent higher in services than in agriculture (9,855 versus 8,166).

<sup>7</sup> Calculated from Figure 5 in Balchin et al. (2016).

Manufacturing productivity, interestingly enough, was less than both agriculture and services (5,729).

Figure 9(a): Labour productivity increases with sectoral movement

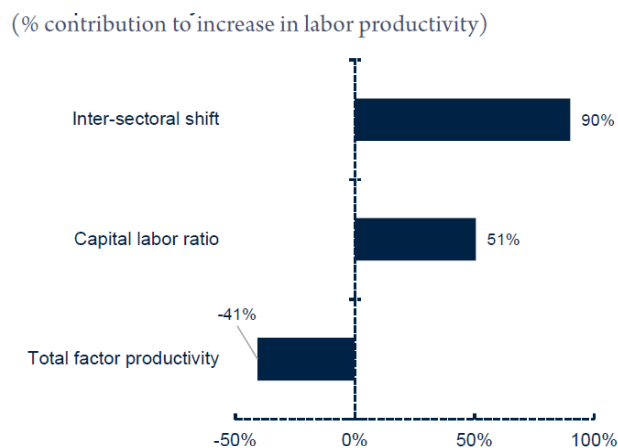
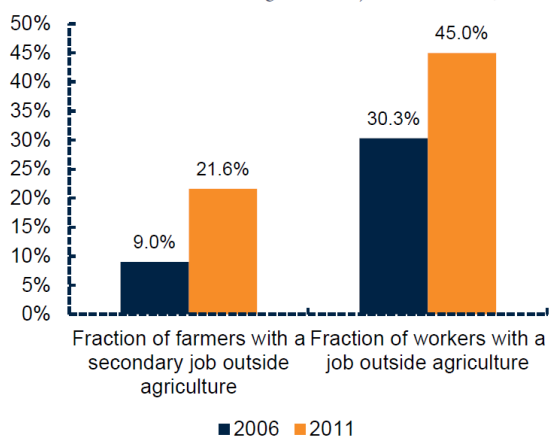


Figure 9(b): Farmers' employment diversifies

(share of farmers with secondary job outside agriculture and share of workers with a non-agricultural job, 2006-2011)



Source: World Bank (2016a).

## 4.2 Exports assume a new importance

The government in 2013 launched its ambitious programme for the next five years to keep Rwanda on the path of becoming a middle-income country by 2020. The objectives were indeed 'stretch goals': specific targets to be achieved by 2018 include per capita income of \$1,000; 30 per cent poverty incidence; and reducing the proportion of the population in extreme poverty to below 9 per cent. These were seen as milestones towards achieving Vision 2020 objectives: nearly double per capita income to US\$1,240 by 2020; reduce poverty to under 20 per cent and eliminate extreme poverty; add 1.8 million new off-farm jobs with 35 per cent of the population living in cities;

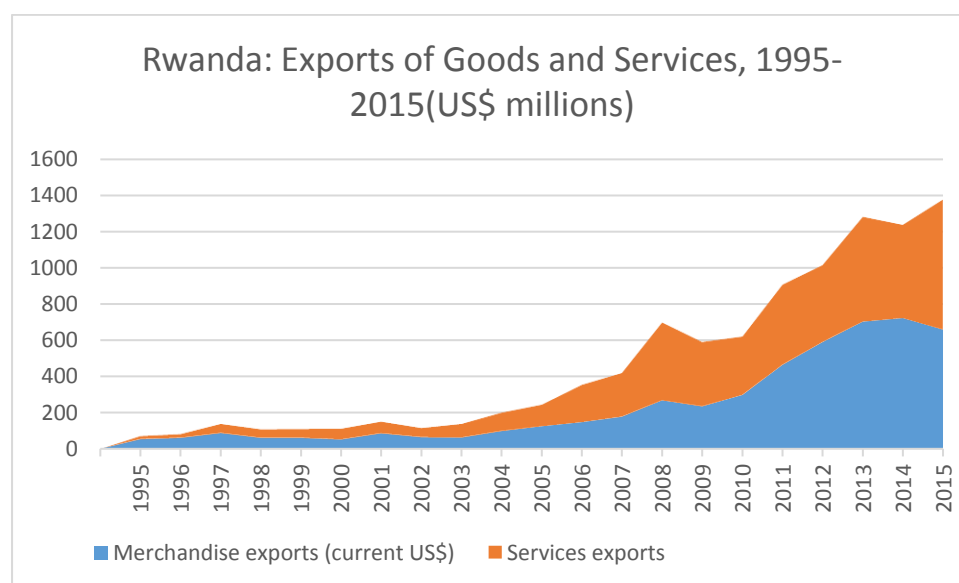


increase private investment (including foreign) to more than 15 per cent of GDP; and increase imports paid for with export earnings from 42 per cent to 75 per cent by 2017.<sup>8</sup>

Achieving these goals hinges critically on developing new sources of growth and development finance. On the one hand, easy gains in agricultural productivity and movement to off-farm employment in public investment related services are likely to diminish. On the other, ODA is unlikely to be as available in the future as it has been in the past.<sup>9</sup> Hence growing exports and attracting more private foreign savings have moved to the forefront of Rwanda’s development agenda.

Exports of goods and services have expanded in robust fashion over the last ten years (Figure 10).

Figure 10: Growth of Rwanda’s exports 1995–2015



Source: World Bank, WDI (accessed November 2016).

Three trends characterize this period: services dynamism (particularly tourism); a combination of rising commodity export prices to 2010, followed by sharp increases in volumes and deteriorating prices after that time; and substantial diversification of the export portfolio, both in product composition and export markets, especially into ‘industries without smokestacks’.

Today, exports from Rwanda consist of five broad categories: traditional commodities, other formal exports, informal cross-border trade, re-exports, and services (Table 1). The total value, according to the World Bank, amounted to almost US\$1.4 billion in 2015. Data on informal cross-border trade only became available starting in 2010 when an annual survey was launched. This survey estimated the value of such trade at US\$45 million in 2010, rising to US\$110 million in

<sup>8</sup> See Annex A for a summary of the government’s forward-looking programme.

<sup>9</sup> Reliance on ODA can also expose the country to political winds in donor countries. For example, donors sharply cut aid in 2012 following allegations by the United Nations (UN) of Rwanda’s involvement in the DRC civil war, and this reduction was a negative shock that reduced GDP growth to 4.7 per cent in 2013.

2014. Since this trade was not included prior to 2010, its addition has somewhat inflated the overall growth rate of exports.<sup>10</sup>

Table 1: Exports by broad category, 2015

	<b>Share (%)</b>
Tourism	29
Tea and coffee	12
Minerals	11
Other goods (formal)	12
Cross-border (informal)	11
Re-exports	16
Transport services	7
Other services	2
<b>Total</b>	<b>100</b>

Source: Official data as presented in English et al. (2016).

After 2013, however, the impressive growth of the previous decade began to fade. This is primarily due to a fall in world mineral prices which then led to cuts in production in Rwanda as some deposits were no longer profitable. This trend continued in 2016, with mineral export revenues expected to fall to US\$70 million, one-third of the 2013 peak.

*Services exports* were the accelerating force in Rwanda’s export portfolio (Figure 10). By 2015, earnings from tourism rose to US\$315 million from very low levels a mere decade earlier. Overall tourism receipts have grown by 22 per cent per annum over the last ten years. However, they appear to be levelling off since 2012. The Ebola epidemic in West Africa impacted Rwanda in 2014. The main driver of tourism, gorilla trekking, is reaching full capacity and the country needs to develop additional attractions to keep the sector growing. Conference tourism (MICE) is doing well, increasing by 24 per cent in 2014 and helping to offset the decline in other business travel.

*Exports of goods* from Rwanda have risen ten-fold to over US\$800 million in 2015. Merchandise export growth has kept pace with the rapid GDP growth over the 1995–2010 period, growing at roughly 8 per cent annually and maintaining its rather low share of GDP. However, much of the growth in this period was attributable to the buoyant prices for Rwanda’s exports, particularly coffee, tea, and minerals. Prices peaked in 2011, but were offset in part by the surge in volume, so from 2011 to 2015 total earnings still grew rapidly—more than 18 per cent—only to fall off in late 2015/16 as world prices of minerals retreated sharply (see English et al. 2016).

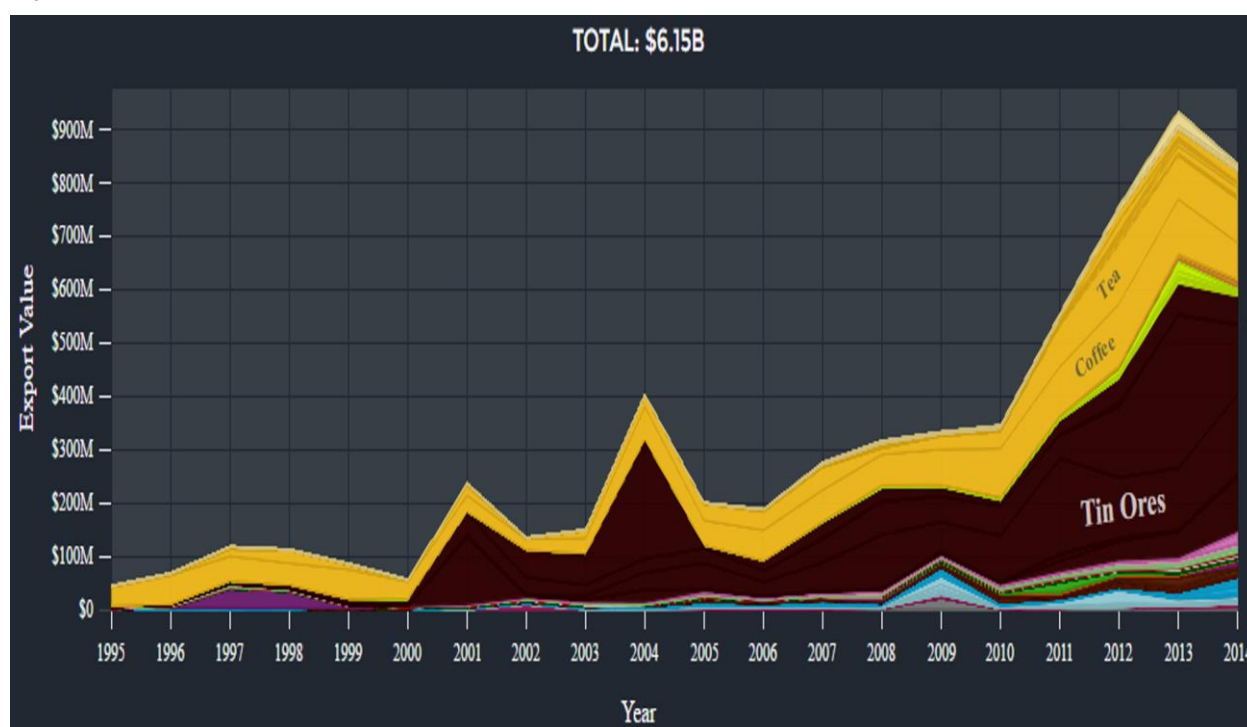
*Diversification in merchandise exports.* Not only has the emergence of services exports served to diversify Rwanda’s export portfolio, so too have the goods exports become more diversified. Coffee and tea were the primary exports of Rwanda in the late 1990s. However, in short order, beginning at the turn of the century, mineral exports, mostly on the strength of artisanal mining, began to take off. Although volumes grew at a respectable pace, it was surging international prices

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<sup>10</sup> Data sources disagree on total exports and their major categories (including the World Development Indicators [WDI], the International Trade Centre, Trade Map). To be consistent over time, we have used the WDI in Figure 10; Table 1 is constructed from government data. It is not clear whether the level of such trade has actually doubled, or whether this increase reflects improved data collection. Note, however, that a comparison based on the level of net exports, after accounting for imported inputs, would be quite different. This is particularly relevant in the case of re-exports. While no data are available, one might assume that the value-added is no more than 15 per cent of the export value, resulting in net exports of only US\$27 million.

that lifted the value of mineral exports. After 2014, falling international prices cut into export earnings.

Figure 11: Diversification in Rwanda's export basket



Source: Simoes and Hidalgo (2011).

In 2003–5, the top five merchandise exports, coffee, tea, tin, coltan, and tungsten, accounted for 79 per cent of the total for formal exports (Table 2).<sup>11</sup> By 2013–15, their share had dropped to 71 per cent (excluding re-exports and cross-border trade). However, if one takes the top 10 exports, the situation has not changed much—80 per cent in 2003/05, 79 per cent in 2013/15. Nonetheless, several exports have become important, such as hides and skins, live cattle, beer, and maize flour.<sup>12</sup> Table 2 also underlines the impressive rates of growth in all major exports.

Informal cross-border exports, particularly important to the DRC, are another important source of diversification, as reflected in Table 1 (but not included in Table 2). In 2015, their value was roughly the same as that of formal non-traditional exports. Table 3 summarizes the main products and destinations for informal trade, some of which are re-exports (telephonic apparatus, dried fry, and second-hand clothing). All told, the DRC accounts for some 40 per cent of total merchandise exports.

*Rwanda still exports too little.* All told, for the entire period from 2000 to 2015, Rwanda's export share (merchandise and services) hovered between 10 and 15 per cent of GDP, roughly only one-third of the average in Sub-Saharan Africa, but comparable to other non-resource-rich landlocked countries in the region.

<sup>11</sup> This section draws on English et al. (2016).

<sup>12</sup> Unfortunately, beer exports were on the decline in 2015 as DRC slapped on new taxes.

This underscores the necessity for future export growth in both services and merchandise if Rwanda is to continue on its growth trajectory.

Table 2: Top 20 merchandise exports and re-exports and their growth, 2003–15 (US\$000 and percent)

HS-6 Code	Product	Exports (US\$)		% of total		Average annual growth rate over 10 yrs
		2003–5	2013–15	2003–5	2013–15	
261590	Coltan (tantalum)	8,008	103,338	8	18.7	29
271019	Petroleum products <sup>a</sup>	55	58,267	0.1	10.5	101
271012						
090111	Coffee	29,416	57,218	29.4	10.3	7
260900	Tin (cassiterite)	23,878	56,680	23.8	10.2	9
090230	Tea	16,798	55,786	16.8	10.1	13
090240						
261100	Tungsten (wolframite)	644	23,753	0.6	4.3	43
100630	Rice	13	12,060	0	2.2	98
100640						
110100	Wheat flour	7	11,211	0	2.0	109
410120	Hides and skins	473	10,910	0.5	2.0	37
410390						
010290	Live bovine animals	0	7,140	0	1.3	Infinite
220300	Beer	3	6,838	0	1.2	117
170199	Sugar	0	6,243	0	1.1	Infinite
151620	Vegetable fats and oils	4	5,542	0	1.0	106
110220	Maize flour	67	4,682	0.1	0.8	53
843049	Boring or sinking machinery for minerals <sup>a</sup>	0	4,628	0	0.8	Infinite
721049	Flat-rolled products of iron or non-alloy steel	0	4,249	0	0.8	Infinite
710812	Gold	0	3,805	0	0.7	Infinite
220290	Non-alcoholic beverages	2	3,736	0	0.7	112
870333	Motor cars <sup>a</sup>	740	3,701	0.7	0.7	18
282590	Bases, inorganic and metal oxides	0	3,215	0	0.6	infinite

Note: <sup>a</sup> Re-exports as calculated in English et al. (2016).

Source: International Trade Centre Trade Map ([www.trademap.org](http://www.trademap.org)) as calculated in English et al. (2016).

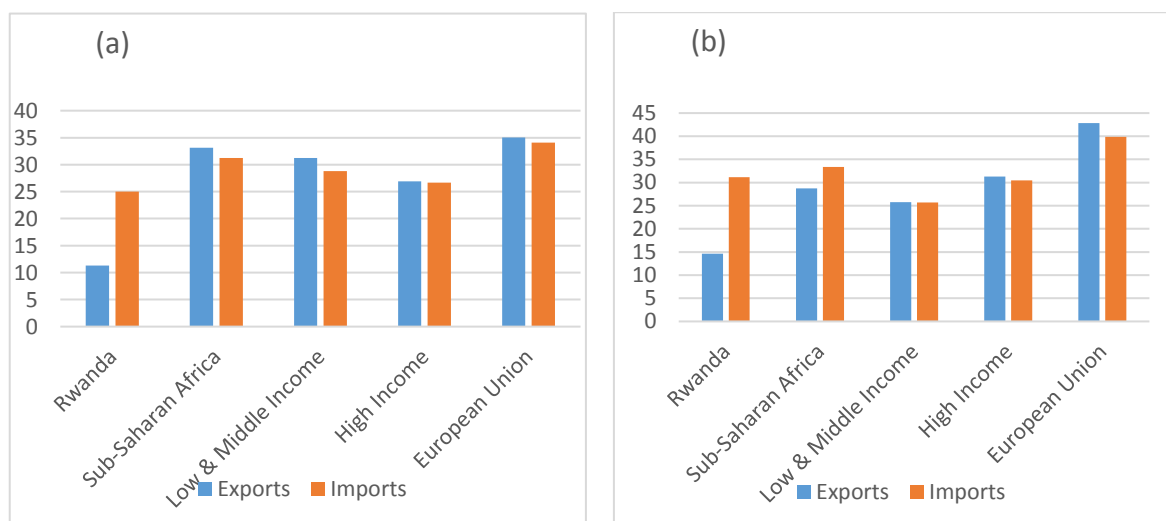
Table 3: Top 10 informal exports from Rwanda to various destinations (US\$ 000s)

Top 10 informal exports	Burundi	Tanzania	Uganda	EAC total	DRC	EAC+DRC
Telephonic apparatus	21.4	5.5	6,955.4	6,982	386	7,369
Bovine cattle live	341.9	0.7	789.6	1,132	4,520	5,652
Beef meat	5	-	3.2	8.3	5,346	5,354
Dried beans	146.7	0.3	2,209.5	2,356	516	2,872
Maize flour	291.5	0	2	294	4,134	4,428
Poultry live	9	0.1	969	978	2,087	3,065
Other fishery products	2.1	0	0.3	2.5	3,508	3,511
Raw milk	60.3	0.7	2.2	63	3,131	3,194
Dried fry of Tanzania	134.3	-	0.2	135	2,597	2,732
Second-hand clothing	444.8	0.3	63.4	509	1,701	2,209

Note: EAC—East African Community. The five partner countries are Burundi, Kenya, Rwanda, Tanzania and Uganda.

Source: Data provided by Ministry of Trade, Commerce and East African Community as calculated in English et al. (2016).

Figure 12: Rwanda's exports compared with averages for Sub-Saharan African countries (a) average 2004–5; (b) average 2014–15



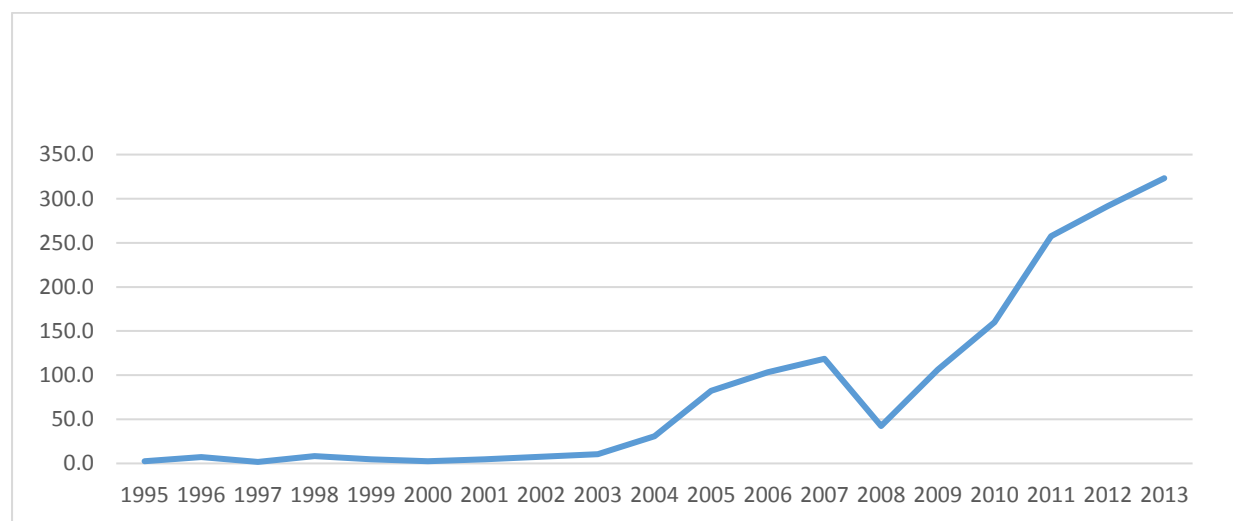
Source: World Bank, WDI (accessed November 2016).

### 4.3 The role of FDI in services: first structural transformation

Because of its links to global value chains and services, foreign investment is central to Rwanda's export future. For most of the first decade and a half after 1995, Rwanda received relatively low amounts of FDI. However, the country's reputation for solid growth performance, sound economic policies, and political stability became attractive to multinational companies, and FDI began to take off after 2005 (Figure 13). Much of the new investment went into services,

particularly finance, telecommunications, and eventually tourism. During this period, ECO Bank, MTN, and later TIGO entered the Rwandan market. In the case of telecommunications, new entrants competed directly with the state enterprise; in other cases they entered by acquiring state assets, such as the Serena Hotel. Only towards the end of the period did Rwanda experience incipient entry into manufacturing. China has become a leading investor, with such apparel firms as C&H. Agro-processing has also begun to grow of late. Perhaps more indicative, Rwanda's share of all global FDI going to developing countries has gone up some six-fold—from an annual average of 0.35 per cent in 2000/01 to 2.1 per cent in 2014/15.<sup>13</sup>

Figure 13: FDI 1995–2013 (current US\$ millions)



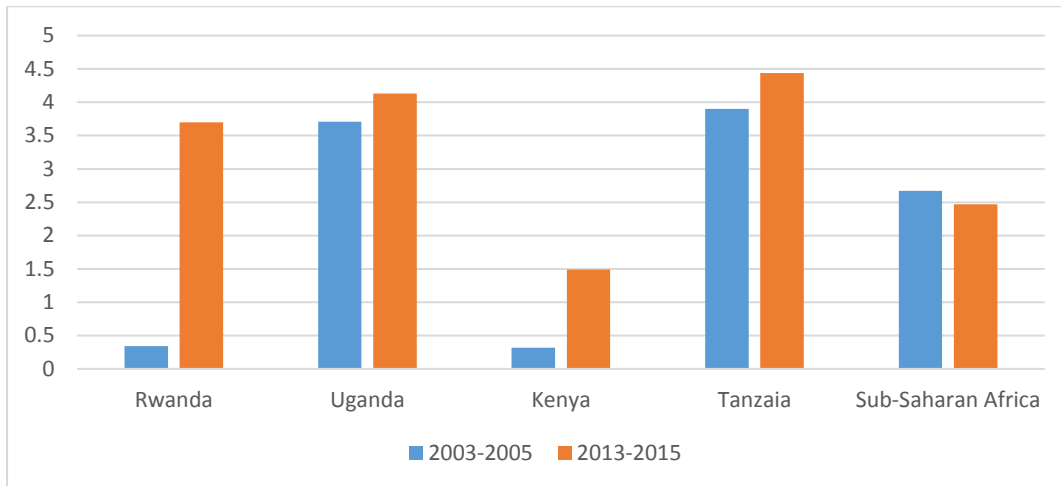
Source: World Bank, WDI (accessed November 2016).

Compared to other countries in the region, Rwanda had neither an abundance of mineral and petroleum riches to attract resource-seeking investment, nor a large market to attract market-seeking FDI, nor a particularly skilled labour force to attract investment seeking cheap labour; also, it did not have easy access to coastal ports that would otherwise give it a transport cost advantage. To the contrary, transport costs are high. This makes its recent performance relative to other countries in the region all the more remarkable. Though FDI was low at the turn of the century, Rwanda, alongside Uganda and Tanzania, has now surpassed regional averages in its share of FDI of GDP (Figure 14).

This new surge in FDI comes at a time when ODA, though still high, has levelled off as a share of GDP. Though still larger than FDI in total flows and important in financing public investment, development assistance has begun to fade just as FDI is increasing (Figure 15). Because ODA flows remain substantially larger than FDI flows, the government has made it a priority to reduce its dependence on aid flows in the latest development plan.

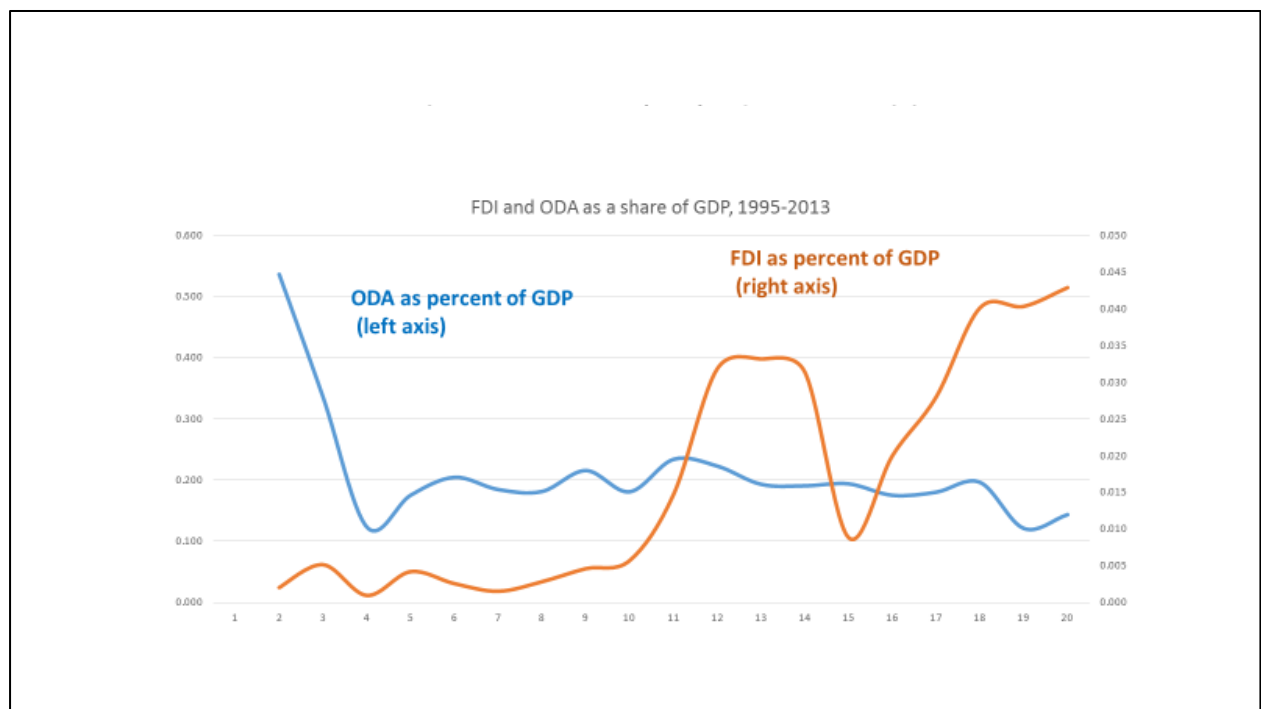
<sup>13</sup> Calculated from World Bank, World Development Indicators.

Figure 14: FDI increased slowly at first but now has surpassed regional averages: (average annual net FDI inflows, % of GDP)



Source: World Bank, WDI (accessed November 2016).

Figure 15: Donor support is phasing out while foreign investment is increasing



Source: World Bank, WDI (accessed November 2016).

## 5 Policies to promote industries without smokestacks

To stay on its high growth plateau, Rwanda has to expand its exports. Industries without smokestacks will play an increasingly important role. This means promoting growth of services, connecting to local value chains in light manufactures, and adding value to its commodity exports as well as developing new exports. This, in turn, requires both economy-wide policies and industry-specific policies.

## 5.1 General policies to expand trade

The government has developed programmes to reshape the domestic productive environment. First, power is unreliable in supply and expensive; power costs of US\$0.20 per kilowatt hour (kWh) constitute a notable cost disadvantage to the manufacturing sector, so it has developed a medium-term expansion programme for domestic generation that includes more than doubling installed capacity in the next five years. Second, transportation costs are a huge tax on competitiveness. Transport costs from Mombasa port to Kigali add roughly 50 per cent to prices for imports and exports. Investing in inland cargo transportation facilities would reduce the cost of cross-border trade and increase the competitiveness of Rwanda's exports by reducing transport costs for export products and the cost of imported inputs for the manufacturing sector.

Already, Rwanda has made exceptional progress in improving the business environment. Its ranking has progressively improved on the World Bank's Doing Business scale from 139 in 2009 to 56 in the 2016 rankings (it is one of the top three countries in Sub-Saharan Africa and the top-ranked low-income country), although this effort has yet to be rewarded with large private investment inflows. Rwanda's low ranking on the 'trading across borders' sub-index (87 in 2017), partly because of high transportation costs, is a clear manifestation of the constraints (World Bank 2017).<sup>14</sup>

Finally, the government (along with other EAC members) could revisit trade policies that inadvertently disadvantage exports. Such measures include:

- *Reducing the costs of trading and removing non-tariff barriers in the EAC.* Despite the removal of tariff barriers within the EAC, non-tariff barriers (NTBs) shackle trade growth (see Cadot et al. 2012). Progress on removing the 35 NTBs that EAC ministers agreed to remove has been halting.
- *Improving incentives for private investors to export.* The tariff regime shapes relative price incentives to private producers, and high tariffs tend to make it more profitable to produce domestically than for export, biasing productive capacity towards import substitution, usually with a cost penalty in growth.<sup>15</sup> Frazer (2012) calculated that when Rwanda lowered its tariffs on intermediate inputs from an average of about 12 per cent to 7 per cent, exporting firms increased their sales abroad by 5–10 per cent.
- *Liberalizing trade in services.* Even though Rwanda is among the most open of the EAC countries in services trade and has benefited from that openness, markets with the EAC are still highly segmented. The lack of competition in EAC telecommunications markets in the past, for example, has conferred a dominant position on MTN in Rwanda, mirrored by that of dominant producers in other EAC countries, and this has led to restrictive pricing that has impeded the expansion of the competitive fringe of operators (Argent and Pogorelsky 2011). Similarly, lingering EAC restrictions on professional services are a regional brake on technological absorption and growth in the region and derivatively on Rwanda (Brenton and Gözde 2012). The recent efforts of the government to eliminate roaming charges has reportedly led to greater cross-border communication at lower cost.

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<sup>14</sup> This paragraph and the one that follows draw on Newfarmer et al. (2013).

<sup>15</sup> See Newfarmer and Sztajerowska (2012) for a literature review of some 15 recent econometric studies dealing with tariff liberalization and economic growth.



## 5.2 Trade and industrial policy

At the centre of the government's industrial and trade strategy is an effort to diversify the economy, create new activities, and add value to traditional products. Past efforts are beginning to pay dividends. Rwanda's export portfolio, like that of the rest of East Africa, has become more diversified, if still concentrated on forward-processing of raw materials.

The government is pursuing an ambitious programme of industrial policies over the next two years, with the objective of reducing the current account deficit through a more rapid growth of exports and greater import substitution. Medium-term policies are designed to promote exports and reduce imports in several sectors: textiles, garments, and leather industry; agriculture export crops; agri-business; construction; livestock; wood industry; minerals; tourism; and ICT.<sup>16</sup> In agriculture, it seeks to reduce imports through increasing sugar and rice production. It has a major objective of increasing the proportion of fully washed coffee, which increased to 50 per cent in 2015 from 21 per cent in 2010, to rise gradually and reach about 80 per cent over the next two years. In construction, it seeks to expand cement production. Plans are in place to raise the production of the national cement company six-fold to 600,000 tonnes per year.

To stimulate manufacturing exports, the government has set up a Special Economic Zone in Kigali and designated sites in other cities to follow suit. It has set up an export growth facility in the Rwanda Development Bank (BRD) to promote exports. Moreover, it has set up an export promotion fund. Targeted areas include processed food, and the development of textiles, garments, and leather industry, as well as beginning to export cut flowers soon. It also has plans to export laptops assembled in Rwanda.

The objective is to accelerate the move towards high value sectors. The most successful and promising of these are services exports, notably tourism, horticultural products and agro-processing, and ICT, and labour-intensive light manufactures.

### *Services exports*

Services is an area where Rwanda could generate new activity. Rwanda, like many other African countries, has benefited from a leapfrog from the twentieth-century fixed-line technology directly into the twenty-first-century mobile technology. Mobile phone subscriptions rose 63 per cent in 2013 to 70 per cent in 2014 while 4G LTE (Long-Term Evolution) was rolled out in November 2015, with an ambitious target of connecting 95 per cent of the population by mid-2017. In the financial services sector, the digitization agenda has seen tremendous modernization of service delivery and emergency of pro-poor and efficiency-augmenting financial innovations. Between 2011 and 2014, mobile payments subscriptions increased from 639,673 to 6,480,449 between 2011 and 2014, and the value of transactions increased from 51 million to 691 million Rwandan francs (RWF). Mobile money—a financial product that allows users to make financial transactions via the mobile phone—was introduced in February 2010 and has since revolutionized financial inclusion and payments efficiency; mobile money users shot up from nearly 200,000 in 2010 to over 1.4 million in 2012. Partnerships between mobile network operators (MNOs) and commercial banks have taken place to leverage market potential among people formerly without access to the financial system, especially in rural communities. Unexploited opportunities still exist for Rwanda

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<sup>16</sup> Plans and numbers in the section are taken largely from Government of Rwanda (2016), 'Letter of Intent' for an IMF Standby Arrangement, 25 May 2016.

to achieve its goal of being the ICT hub of the EAC, to expand its export of ICT services in the region, and increase the competitiveness of its exports.

### *Tourism*

Tourism has also been of great economic benefit to the Rwandan economy; it has been the single most important source of foreign inflows since 1999, surpassing the combined traditional exports—coffee, tea, and unprocessed minerals (Daly and Gereffi 2016; World Bank 2015). The government has thus placed emphasis on the sector by supporting improvements in tourism infrastructure to increase annual tourism visits, a move that raised tourism revenue by 35 per cent between 2008 and 2011. Recently, priorities have focused on medical tourism, with the aim of making Rwanda the medical tourism hub of the EAC region. Investment in high-class and specialized hospitals like the Rwanda Military Hospital (RMH), where patients from the EAC region and beyond could come for high-quality medical services, is expected to boost medical tourism in particular, and generally increase tourist arrivals and revenue. Notwithstanding numerous challenges in realizing this goal, Rwanda has the potential to attract medical tourists from the DRC, where health services are relatively less efficient. Improved digitization of tourist services and marketing of tourist attractions to potential regional and international tourists is still missing and holds great value-addition potential. Construction and renovation of accommodation units such as hotels is also on the rise, especially in Kigali, which might bring down the cost of accommodation and increase tourist arrivals in future years.

Table 4: Visitor arrivals and spending, 2012–14

	Visitor arrivals			Total revenue (\$m)			Revenue per visitor (\$)		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
Tourism									
Leisure	95,270	103,786	105,213	129.7	143.0	144.6	1,361	1,378	1,374
VFR	305,544	327,996	398,111	26.0	28.6	35.8	85	87	90
Business	414,628	419,182	395,344	105.2	98.2	94.0	254	234	238
Transit	39,552	46,410	48,930	0.0	0.0	0.0	0	0	0
Other	206,314	224,761	271,931	20.9	23.8	30.5	101	106	112
Total	1,061,308	1,122,135	1,219,529	281.8	293.6	304.9	266	262	250

Note: VFR—Visiting Friends and Relatives.

Source: English et al. (2016).

To promote tourism, it has invested heavily in the national airline, RwandAir—including the purchase of two airbuses. It is focusing on MICE tourism, and will finish the Kigali Convention Centre.

Tourism is proving to be one of Rwanda’s highest potential export-oriented service sectors, generating about a third of the total export of goods and services earnings. It is a sector in which Rwanda’s strengths are the safety, comfort, and stability of the country. The government has adopted a MICE strategy aimed at making Kigali a hub for major regional and international conferences. The opening of the Kigali Convention Centre is scheduled for June 2016 and, together with new upscale hotels being built, will provide high-quality rooms for up to 6,000 guests by the end of that year. With new routes to India and China, RwandAir is also part of these plans to bring guests from afar, as well as stimulate trade. Revenues from MICE tourism were US\$39 million in 2015 and projected to increase significantly in 2016/17, as more than 20 international events are expected to be hosted in Rwanda (Government of Rwanda 2016: 13).

### *Horticulture, cut flowers, and agro-processing*

The National Export Strategy (2010–15) highlighted export diversification as a key priority, focusing on agro-processing in non-traditional sub-sectors, including horticulture. Horticultural products have increased in importance, leaping from 13,700 metric tonnes in 2008 to 25,600 metric tonnes in 2012 (World Bank 2015). Nonetheless, the export base remains highly narrow and the economy is hungry for further diversification. Investment incentives targeted to horticulture in particular, and export development in general, include dedicated land sites for investment, cold chain development—including Kigali pack house at the National Agricultural Export Development Board (NAEB)—and access to finance, notably through the export growth facility managed by BRD. The six months of rainfall is ideal for horticulture farming; the wet and cool climate in the high-altitude north and west are convenient for temperate fruits, big-headed roses and herbs, while avocados, beans, chillies, and Asian vegetables thrive well in the sunny and warm south and east.

The government plans to expand revenue from horticulture from the \$3 million it produced in 2009 to \$9 million in 2015. There are, however, no major horticulture exporters in the country, partly because of the difficulty in maintaining optimal quantities and standards. Besides, the high cost of obtaining an organic licence implies that majority of horticulture farmers are not licensed organic farmers—even though an estimated 85 per cent of them use organic inputs and practices. Limited land for expansion and inadequate knowledge among value chain players on proper crop cultivation, fertilizer, and pest management, post-harvest handling, and export procedures further plague the horticulture sector. In order to bridge the knowledge and skill gap, the government has stepped up efforts to train farmers on agricultural and agronomic practices through the One Acre Fund. There is potential for Rwanda to maximize revenues from horticulture by reducing the costs of airfreight between Kigali and international markets, which are among the highest in the region. With airfreight costs substantially reduced, Rwanda will be in a position to serve the increasing demand for fresh fruits and vegetables in the EAC region and the DRC. Physalis are grown in the high-altitude regions of Rwanda and present potential to feed the high demand from Europe and the Middle East—currently supplied by Colombia. Avocado, an oil fruit grown by over 500,000 smallholder farmers, has potential for agro-processing into avocado oil. The government has committed to horticultural development through:

- earmarking sites for horticultural cultivation and investing in agricultural land information systems and irrigation facilities;
- developing a cold chain system, including Kigali pack house, to be completed by the end of 2016, to support 120 square metres of cold rooms and storage capacity of 35 metric tonnes (four regional collection centres in Musanze, Kamonyi, Rulindo, and Ngoma, each with a capacity of 7–10 metric tonnes, will also boost agro-processing);
- establishing modern cold storage facilities at Kigali International Airport, with a capacity of 30 metric tonnes, with 4 ha of customs clearance and cargo handling equipment rental available;
- improving feeder roads, electricity supply, and reliability and air connectivity;
- increasing access to subsidized finance by potential exporters through an export growth facility;
- increasing investment in irrigation (the area under irrigation has increased from 6,000 ha in 2006 to 45,000 ha in 2016, according to the NAEB).

Table 5: Investments in horticulture

Location	Land size	Intended activity	Attributes
Nyacyonga (10 km from Kigali)	20 ha	Flower development	Appropriate for middle altitude roses; basic production infrastructure on site
Gishwati	80 ha	Apple growing	Highly fertile volcanic soils; cool and high precipitation; favourable for temperate fruits
Gishari	60 ha	Flower development; rose production	Good for intermediate roses; close to Muhazi lake for irrigation
Gashora	250 ha	Vegetable development	Near Akagera river; irrigation development under way; highly fertile soils
A plot in KSEZ	7 ha	Wholesale market for fresh produce	Located in Kigali Special Economic Zone; government of Rwanda seeking developer

Source: NAEB.

### *Information and communication technology*

ICT has expanded greatly in recent years, attracting 47 per cent of FDI between 2008 and 2011, according to data from the National Bank of Rwanda, and contributing 3 per cent of GDP in 2014. The sector has received policy focus under the multi-phase National ICT Strategy and Plan: the first phase (2001–05) focused on institutional, legal, and regulatory reforms, liberalization of the telecom market and reducing entry barriers. The second phase (2006–10) was centred on establishing world-class communications infrastructure as a backbone for the country’s communication needs. The major goal in the third phase (2011–15) was to develop ICT for improved service delivery in both the private and public sectors. In the last phase (NICI 3), the government aimed to use ICT to build a highly skilled and knowledgeable labour force (skills development), stir competition and innovations in the private sector (private sector development), empower communities through improved access to information (community development), improve efficiency and service delivery in government operations (e-Governance), and secure the country’s cyberspace and information assets (cyber security).

ICT continues to grow rapidly and drive innovations in several sectors, offering great growth potential for the economy. The government is a major consumer of ICT services through its line ministries and authorities. One of the main landmark digitization initiatives was the establishment of electronic and mobile declaration (e-declaration and m-declaration) of tax returns in the Rwanda Revenue Authority in 2011. The success of this initiative was backed by the recently (2015) introduced mobile payment for taxes, both initiatives ultimately saving tax payers time and transport costs that would be incurred in declaring and paying taxes. The regulatory agency, the Rwanda Development Board (RDB), has worked closely with technology solutions companies to earmark the digitization of 100 services, including application for birth certificates, registration, and school examination fee payment, among other key services. The education sector has also embraced ICT by designing online learning platforms and the creation of a private–public partnership between the government of Rwanda and technology company Postivo BGH, in 2014, to set up a laptop factory in Kigali and sell laptops to schools. The development of mobile apps such as RapidSMS, and e-Diagnosis in the health sector, have eased knowledge sharing and patient tracking by health service providers. In the agriculture sector, the Fertilizer Voucher Management System helped to smooth the distribution of fertilizers to farmers; farmer uptake rose by 11 per cent between 2013 and 2014. Other market platforms like e-Soko help farmers to access real-time price information for agricultural produce.

### *Labour-intensive light manufactures*

Manufactured exports can be divided into two categories according to the markets they target: regional or international. The vast majority fall into the former group and, as already described, focus primarily on DRC, followed by Burundi. There are only 17 companies which export at least 2 per cent of their output (Frazer 2016). Of the 14 for which market information is available, only one of them had its primary market outside of the region. For 11, the primary market was DRC or Burundi, and these two markets plus Uganda were the secondary market for 11 as well. Most companies have one principal export product, and these products are generally relatively low value and based on local or regional inputs. Maize flour, beer and other beverages, plastic shoes, cement, rebar (reinforcing bars), and other construction materials are among the main exports. As explained above, Rwanda is well-positioned to access the DRC and Burundi markets. This has attracted investment from companies based in Kenya, Tanzania, and Uganda.

Past growth in this trade has been impressive and there remains much untapped potential. That said, it is a very complex, indeed difficult, environment to work in and recent events are not encouraging. Corruption is endemic, many rebel groups remain active across the border in DRC, and Burundi is in a state of political turmoil. Business leaders in Rwanda often refuse to travel out of concern for their personal safety, preferring to let buyers come to their factories if they wish. Recently, authorities in Burundi have closed the border, blaming Rwanda for the political problems they face at home. DRC has raised taxes on beer and other beverages, and imposed new licensing requirements for cement, wheat flour, and alcoholic beverages. It is difficult to know what to expect from these two markets, and how much effort to place on expanding this trade.

In contrast, very few manufactured products are exported beyond the region, yet the government has high hopes for the future. In particular, it plans to expand labour-intensive manufactures through participation in global value chains. Chinese wages have been rising fast and China is now seeking to relocate low value production overseas. Rwanda has attracted interest due to the high productivity of its labour force relative to its low cost, although the size of its non-farm labour force is small. The establishment of one Chinese clothing exporter in the Special Economic Zone is indeed promising. However, Rwanda's landlocked status poses a major challenge, since competitive clothing exports are likely to depend on imported textiles from China. The transport time required to import raw materials and then export the finished product leaves insufficient time to complete actual production and meet the deadlines for seasonal apparel. Thus, the current operator's exports are focused exclusively on uniforms for the time being, along with production for the domestic market.<sup>17</sup> One other company is exporting home design products, which are also not seasonal. In general, this type of trade is highly competitive and Rwanda does not seem to be an obvious candidate. However, industry sources claim that Rwandan productivity relative to its labour costs offsets disadvantages of distance. The question remains whether the new textile factory will prove viable and sustainable over the long run.

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<sup>17</sup> C&H Garments currently employs 300 workers for export production while training another 550 to respond to increased domestic demand given recent decisions to reduce used clothing imports.

## 6 Conclusions

Rwanda has achieved remarkable rates of socioeconomic transformation since the end of the civil war and genocide that tore apart its economy and social fabric in the early and mid-1990s. Recovery and development processes have for long been based upon building sound political and institutional structures to foster unity and reconciliation in a once highly fragile state. An effective, on-the-ground and corruption-intolerant political system has provided a conducive ground for the success of public policy and a conducive investment climate attractive to both local and foreign investments. The government of Rwanda has exhibited strong commitment to poverty-reducing economic growth by initiating pro-poor policies to raise the income and productivity of the poor, registering a tremendous decline in poverty and inequality. Donor support has also been an invaluable source of funding throughout Rwanda's recovery and development phases. Going forward, measures will have to be devised to reduce the economy's over-reliance on foreign aid and its associated exposure to external growth shocks. Strategies to diversify the export base, improve domestic revenue collection, and lower the costs of energy and transport would increase the robustness of the country's economy and aid in the realization of a middle-income status envisaged in the country's Vision 2020.

Growth of exports and imports have been at the heart of Rwanda's stellar economic performance over the last decade. If the country can continue to push reforms for the economy as a whole, and in these particular sectors, Rwanda will likely maintain its growth momentum over the next decade.

Industries without smokestacks will play a leading role.

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## Annex

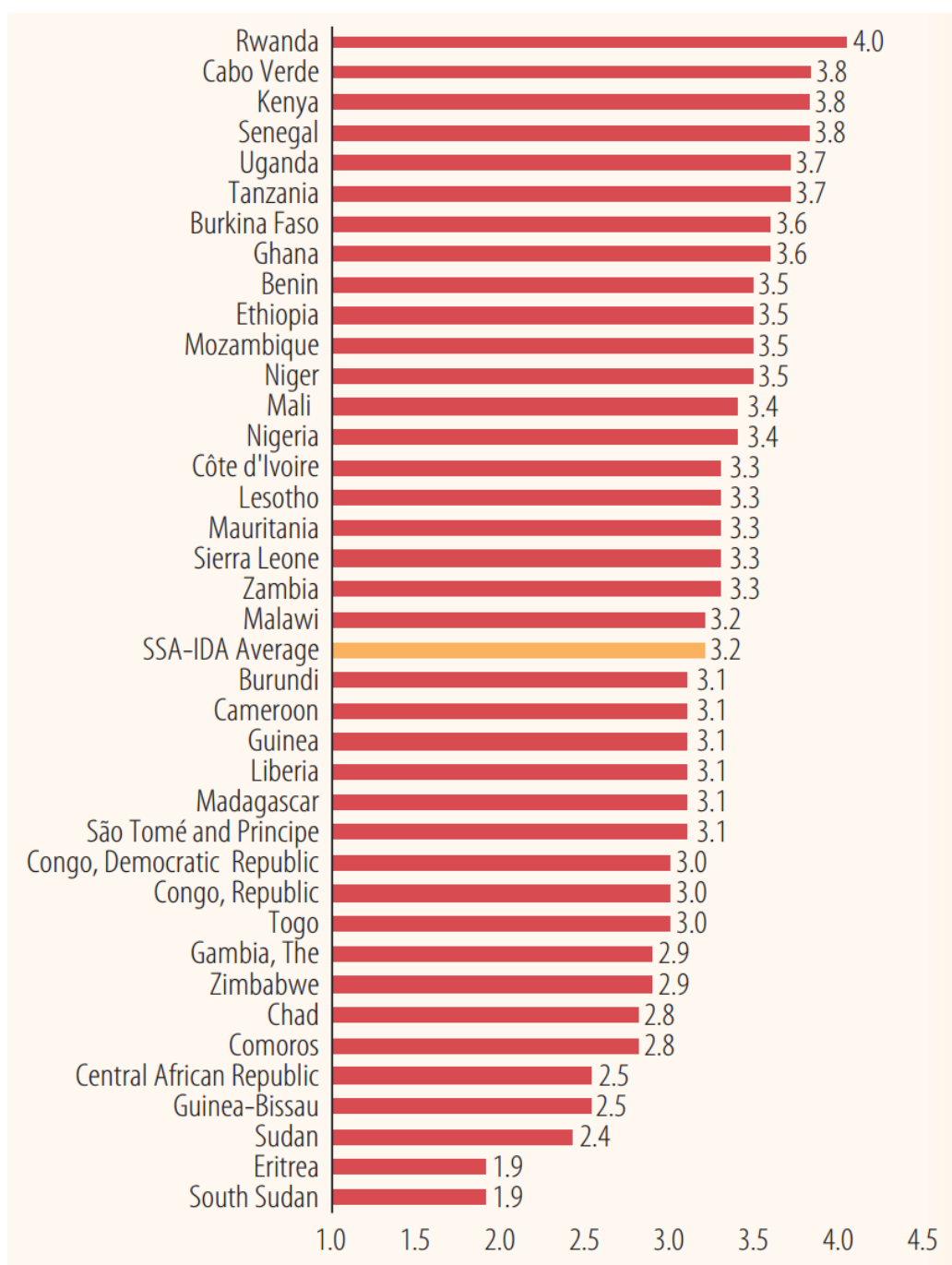
Table A1: Rwanda economic performance indicators: five-year average 1981–2015

Indicator	1981–85	1986–90	1991–95	1996–2000	2001–5	2006–10	2011–15
GDP growth (%)	2.7	1.5	-3.9	10.3	7.5	8.3	7.1
Agriculture value-added growth (%)	1.2	-0.08	-1.56	10.1	6.24	4.9	4.9
Industry value-added growth (%)	4.28	0.42	-7.68	10.42	9.52	9.1	10.3
Manufacturing value-added growth (%)	2.32	3.56	-13.68	7.1	9.1	6.46	4.83
Services value-added growth (%)	3.8	3.8	-2.6	10.8	4.8	11.2	8.5
Inflation (CPI, %)	6.6	2.4	13.9	5.4	6.8	8.4	4.3
GDP per capita (current USD)	267.4	329.4	246.0	249.9	226.6	462.0	662.2
Export growth (goods and services, %)	6.9	-1.3	-10.3	8.8	27.0	3.0	18.9
External debt/GDP ratio (%)	17.04	26.58	67.64	69.38	78.68	15.38	21.48
FDI net inflow (current USD, millions)	14.3	15.9	3.0	4.4	5.9	75.4	203.8
Poverty incidence (% below \$1 a day)			78 (1994)	60.4 (2001)	56.7 (2005)	44.9 (2010)	39.4 (2014)

Source: Author's calculation based on data from World Bank and IMF reports.



Figure A1: Overall CPIA scores of Sub-Saharan African Countries (IDA) 2015



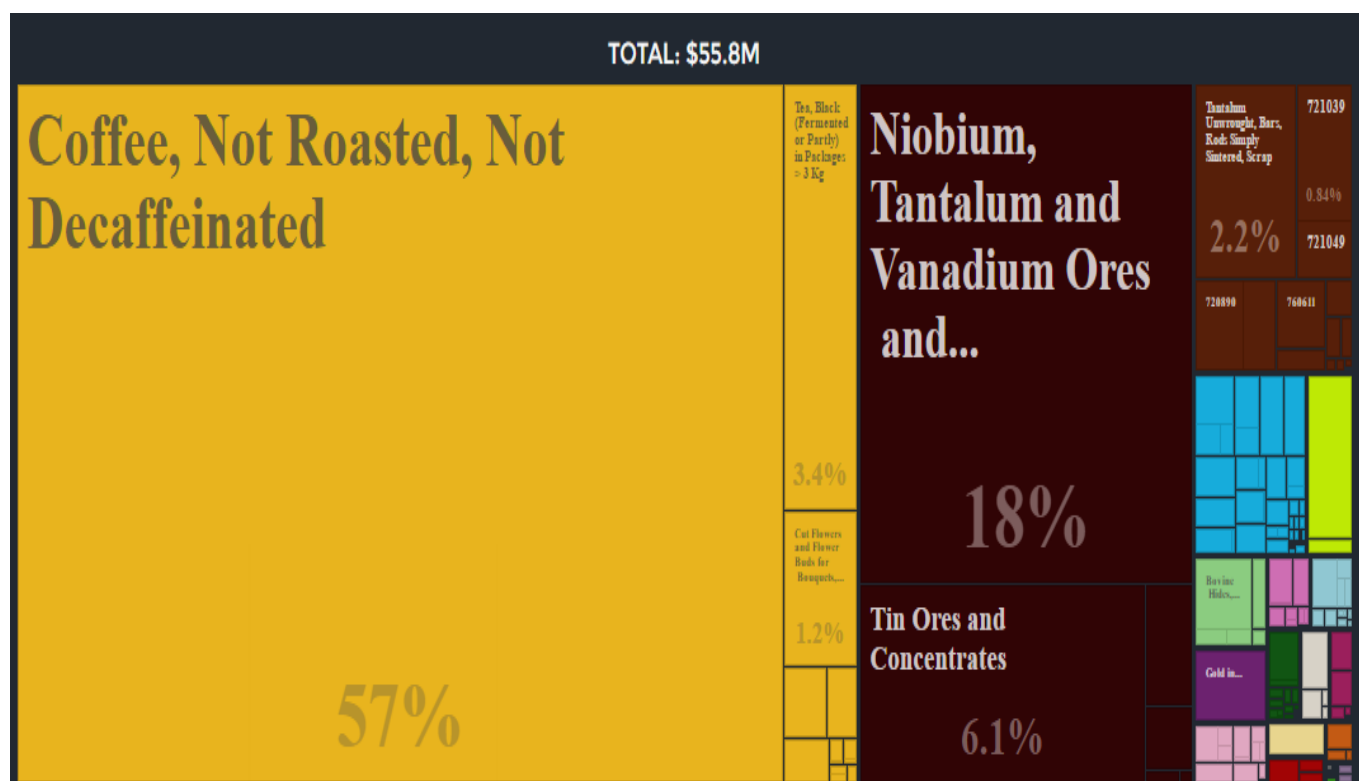
Source: World Bank (2016b), Country Policy and Institutional Assessment (CPIA) scores.

Table A2: Becoming a middle-class country: Rwanda's economic objectives

OBJECTIVES	STATUS 2008-2012	EDPRS 2 TARGETS BY 2017	VISION 2020 TARGETS
<b>Rapid economic growth to Middle Income status</b>	<ul style="list-style-type: none"> <li>GDP per capita of \$644 in 2012</li> <li>Avg. GDP growth of 8.2%</li> </ul>	<ul style="list-style-type: none"> <li>GDP per capita of \$1001 in 2017</li> <li>Avg GDP growth of 10.2%</li> </ul>	<ul style="list-style-type: none"> <li>GDP per capita of \$1240</li> <li>Avg. GDP growth of 11.5%</li> </ul>
<b>Increased Poverty reduction</b>	<ul style="list-style-type: none"> <li>Poverty reduced from 57% to 44.9% over 2006-2011</li> <li>Extreme poverty reduced from 36% to 24%</li> </ul>	<ul style="list-style-type: none"> <li>poverty reduced under 30%</li> <li>Extreme poverty under 10%</li> </ul>	<ul style="list-style-type: none"> <li>Poverty reduced to 20%</li> <li>Extreme poverty eliminated</li> </ul>
<b>More off-farm jobs, more urbanised</b>	<ul style="list-style-type: none"> <li>1.4 mln off-farm jobs</li> </ul>	<ul style="list-style-type: none"> <li>200,000 new off farm jobs p.a</li> </ul>	<ul style="list-style-type: none"> <li>1.8 mln new off-farm jobs</li> <li>35% of population urban</li> </ul>
<b>Reduced external dependency</b>	<ul style="list-style-type: none"> <li>Average Exports (G&amp;S) Growth of 22.8% over 2008-2012</li> <li>Exports coverage of imports at 42.3%</li> </ul>	<ul style="list-style-type: none"> <li>Exports Growth of 28% p.a.</li> <li>Exports cover. of Imports 75% by 2017</li> </ul>	<ul style="list-style-type: none"> <li>Exports Growth of 28% p.a.</li> </ul>
<b>Private Sector as engine of growth</b>	<ul style="list-style-type: none"> <li>Private investment at 10% of GDP</li> </ul>	<ul style="list-style-type: none"> <li>Private sector investment to reach 15.4% of GDP</li> </ul>	<ul style="list-style-type: none"> <li>Private sector engagement</li> </ul>

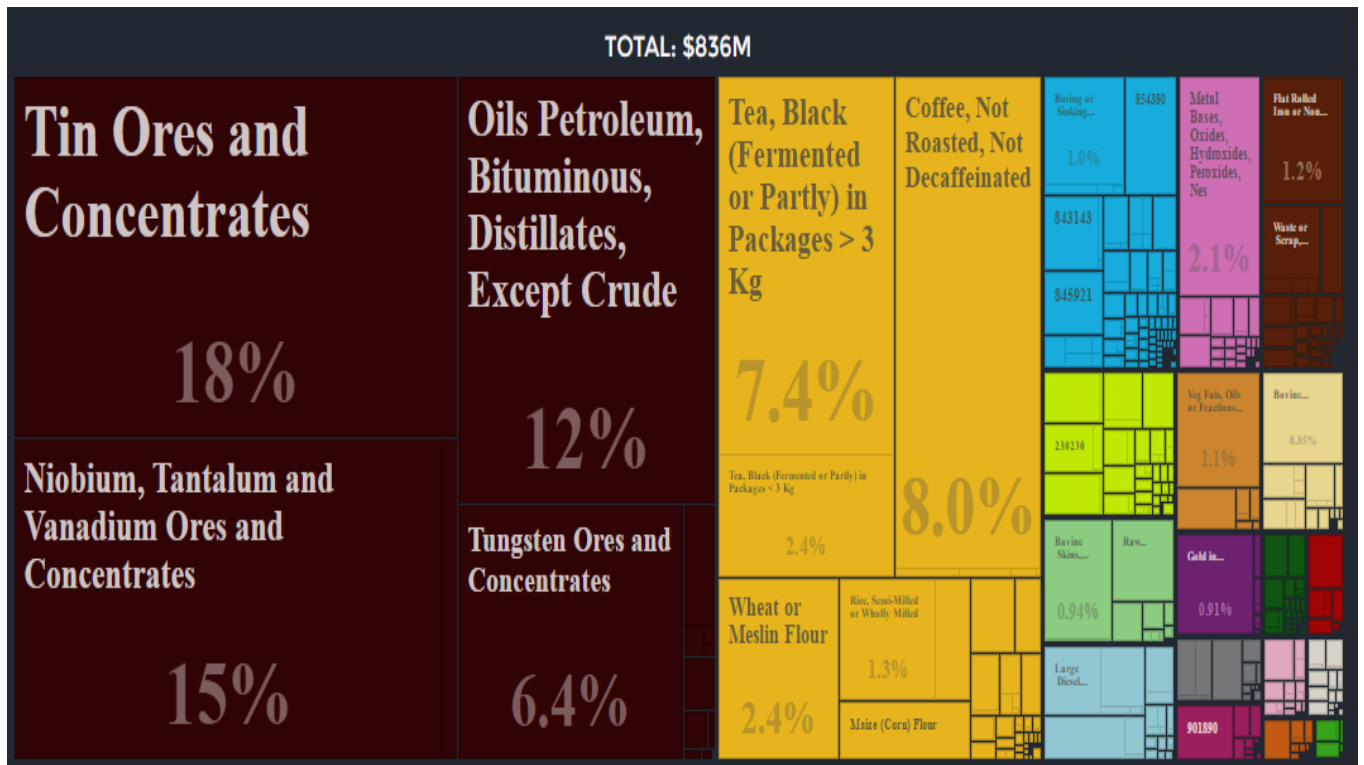
Source: Minecofin, EDPRS2.

Figure A2: Composition of Rwanda's export commodities in 2000



Source: Simoes and Hidalgo (2011).

Figure A3: Composition of Rwanda's export commodities in 2014



Source: Simoes and Hidalgo (2011).