

Dimitri Stoelinga, Anirudh Rajashekar and Marion Richard

The economic geography of Rwanda: Trends, challenges and opportunities



- In brief:**
- The economic geography of Rwanda is characterised by relatively low levels of urbanisation (estimated at about 18.5% in 2016 - 2017 according to Integrated Household Living Conditions Survey (EICV) 5 data), a high urbanisation growth rate, high population density, and the urban dominance of Kigali City, the capital.
 - This study confirms that Rwanda is urbanising quickly, with high population growth rates in both Kigali and secondary cities.
 - Secondary cities are not equivalent in their size or potential for future growth: Resources need to be prioritised, with Rubavu having the highest potential. Road infrastructure matters and potentially has a large effect on trade.
 - Rwanda's city branding strategy needs to be managed with care and combined with other non-sector specific policies. Another important lesson from the discussion on smart specialisation is that different types of economic development strategies might be required for different regions.
 - The analysis also reveals that firm branches are playing a very important role in transforming the economic geography and development of Rwanda.

*This project was
funded by IGC
Rwanda*

Overview of the research

This study, funded by the International Growth Center (IGC) and supported by the Ministry of Infrastructure of Rwanda and the Rwanda Revenue Authority, aims to generate new insights to support spatial and urban planning in Rwanda. The report provides policy makers with new information about the economic geography of Rwanda and new ways of looking at geographic trends. The analysis we present focuses on better understanding:

- (i) Urbanisation and population density patterns in Rwanda;
- (ii) the geography of firms in the country;
- (iii) structural transformation at the city-level and the implications thereof; as well as
- (iv) internal trade between Rwandan cities.

We use an original mix of data sources, including a unique dataset of all value added tax (VAT) transactions in 2017, to understand the trade of goods between formal firms across the country. We also rely on the newly published Rwanda Establishment Census (from 2017), EICV 5 (2016 - 2017), the Labour Force Survey (2017), the Population and Housing Census from 2002 and 2012, and publicly available population density data to understand changes in economic activities and human settlement patterns across the country.

Key findings and policy implications:

- **Population growth in secondary cities: An opportunity and a challenge that needs careful planning**

The study confirms that Rwanda is urbanising quickly, with high population growth rates in both Kigali and secondary cities. Secondary cities that were experiencing the fastest population growth rates between 2012 and 2015 included Rubavu (5.5% per year), Musanze (4.1% per year), and smaller towns such as Byumba and Nyagatare (more than 10% per year).

Evidence from the EICV 5 datasets reveals that people are moving to cities to gain employment or to seek further education. It seems to be "pull factors" that are attracting internal migrants away from rural areas and towards cities. The immediate surroundings of secondary cities are also densely populated, suggesting that they will gradually be integrated into the city ecosystem, generating greater scale and opportunities for growth.

- **Economic migration patterns: Accounting for poor migrants in urban development policy**

An important trend to be aware of is that people in the wealthiest population quintile (as per EICV 5) are currently migrating from rural to urban areas. This has several important implications:

1. It contributes to *creating greater spatial imbalances*. This is evident in a number of findings in our report, including for example, the low integration of rural areas into the economy.
2. *There is a barrier for the migration of the poorest*. Possible explanations are that the cost of relocation or the cost of living in the city are simply too high for people in the poorest quintiles.
3. *The poorest migrants are currently re-locating to other rural areas, but this will not always be the case*. Push factors, including loss of land, loss of employment, and lack of opportunities, are driving the migration of the poorest.
4. However, *as land becomes scarcer and competition for farm-jobs increases, these migrants will look for new opportunities in cities*. This will place further pressure on low cost housing and job creation.

It is important for policy makers to start thinking ahead about the implications of increased migration of much poorer households for urban development policies.

- **Population growth and firm creation: Achieving urban structural transformation**

The study also shows that population growth tends to precede firm creation and urban structural transformation. It seems to be the case that people move first, then firm creation and structural transformation follows. Further research could investigate whether this sizeable population inflow is fully absorbed by a growing workforce. If this was not the case, urban unemployment or high levels of underemployment would become a key policy challenge. Similarly, future work could assess whether there are bottle-necks in the provision of urban infrastructure that generate negative urbanisation externalities, hampering the economic and social benefits of the urbanisation process.

- **Prioritise resources between secondary cities: Rubavu has the highest potential**

This study shows that secondary cities are not equivalent in their size or potential for future growth. There is a lot of variation in the demographic and economic footprint of secondary cities. Given limited resources, spatial development policies should take these differences into account in the allocation of funding and the selection of priorities for the spatial development of the country.

Across multiple metrics, Rubavu is the city with the highest potential for growth:

- It has by far the largest population of Rwanda's secondary cities and has also sustained amongst the highest population growth rates.
- It has the greatest number of firms among secondary cities and has been experiencing comparatively high firm creation rates.
- Its economy is converging faster than any other towards Kigali city, moving away from an agriculture-based economy towards other economic activities: It is poised to grow further.
- It is located in a strategic cross-border location by Goma and is next to Rwanda's second largest secondary city, Musanze.
- It has, by far, the highest road connectivity of any other secondary city.
- Its economic centre, Gisenyi Sector, is very vibrant.

However, in terms of firm creation, structural transformation, and internal trade flows, Rubavu is lagging behind its population. We have shown that in the Rwandan context, population growth can precede economic growth, suggesting that the city has a high "catch-up" potential. This will require the prioritisation of resources to support the Rubavu's development.

- **Manage key spatial imbalances: Invest in connecting Nyamasheke District to the economy**

We observe the biggest disconnect between population levels and trade predictions is in Nyamasheke District. Despite having comparatively high population levels and being located on a strategic highway along the Kivu Belt, Nyamasheke is disconnected from Rwanda's electronic billing machine (EBM) economy. It has very low urbanisation rates and no significant towns.

The inner region of Nyamasheke has amongst the lowest road connectivity levels in the country. Nyamasheke does not have an asphalted road connection to the west of the country, connecting it to Nyanza or Muhanga for example. Providing Nyamasheke with the connectivity it needs can yield high trade benefits and lead to more accelerated levels of urbanisation in the District.

- **Beyond city boundaries: Local connectivity and high-density population belts**

Population patterns suggest it is important to think beyond the boundaries of specific cities or administrative areas, such as provinces and districts. Rwanda is urbanising along broad axes connecting cities, not only in and around cities. Policy makers should consider the introduction

of new administrative units that reflect the functional urban agglomerations. This will minimise policy fragmentation and ensure decisions are taken at the right spatial level.

In particular, we identify **four main urbanisation axes**:

- i) The area in and around the capital, Kigali City;
- ii) the north-western corridor of the country between Rubavu, Rwanda's second most populated city, and Musanze, an area we refer to as the "Virunga belt";
- iii) the Kigali, Muhanga to Huye corridor, along Rwanda's main highway, which we refer to as the "Southern belt";
- iv) the "Lake Kivu belt" – from Rubavu through to Karongi and Rusizi; and
- v) the Eastern Province. Although it remains comparatively less dense, it is quickly picking up. It has experienced the highest population growth rates since 2002.

- **Harnessing the population potential of areas surrounding cities**

Evidence also suggests that cities have an influence over a much larger territory than the immediate city boundaries. One of the key messages of this study is that Rwanda's economy is very concentrated in the Capital and in small urban sectors within secondary cities, near the city-centre. Importantly, growing urban centres can also have a poverty-alleviating effect on the rural population nearby. With this in mind, **the cities with the greatest potential include**:

- Musanze, which had more than 500,000 people living within 15km of Kigali City in 2012;
- Rubavu, with a population of about 373,000 in its vicinity in 2012;
- Huye, with a population of 364,000; and
- Muhanga, home to 344,000 people.

Deepening the local connectivity of the economies of these cities to this large population pool is strategically important (see, for example, Cali and Menon, 2009, on the effects of urban spill-overs on poverty reduction in neighbouring rural communities).

- **Infrastructure matters: Concentration and access**

We have shown in this study that road infrastructure matters and that it potentially has a large effect on trade. From a policy perspective, it is important to understand whether improved transport infrastructure would have a "centrifugal" effect, i.e., would result in the decentralisation of economic activities away from the Capital, or have a "centripetal" effect, i.e., economic activities would further concentrate in Kigali.

Centrifugal forces will prevail for activities for which input costs are lower in smaller cities, as improved transportation infrastructure would make it easier to serve the larger final market in Kigali. The centripetal effect would dominate for those high value-added activities for which urbanisation externalities and agglomeration benefits are particularly important, e.g. advanced services and the knowledge-based economy.

One issue that we were not able to directly address, but that is central to connecting Rwanda's economy, is the cost of mobility. Better infrastructure is not sufficient to generate the intended growth effects; people and firms need to be able to afford the costs of transport.

- **Risks associated with place-based sector specialisation policies**

Rwanda's city branding strategy needs to be managed with care and combined with other non-sector specific policies. We find that there is overlap between the brand names proposed for

Rwanda's secondary cities and the areas in which these cities have a revealed comparative advantage. However, having a revealed comparative advantage in a given activity within the Rwandan context does not necessarily imply that secondary cities will have the required capabilities to sustain growth in that sector.

We have shown, using a smart specialisation model, that promoting a place-based policy, targeting greater specialisation in specific economic sectors of activity, can be a high-risk strategy for secondary cities. It would in some cases entail creating sectors from scratch or starting from a low base. This does not mean that a sector-focused approach would fail, but it does mean that a sector-specialisation policy would involve risks, with a high probability of failure, but also high rewards if the policy succeeds. Given the high risks, we recommend that sector-specialisation policies not be the core pillar of any spatial development or city development strategy, but rather one of several pillars.

- **Tailored regional economic development policies**

Another important lesson from the discussion on smart specialisation is that different types of economic development strategies might be required for different types of regions. Secondary cities have two types of sector strategy policy options:

- i) A high risk approach, with a high risk of failure, but high returns if it succeeds; or
- ii) A "slow road" policy, starting with less complex activities that are more achievable and gradually upgrading the firm-level capabilities of the city. This policy would have lower returns in the short term, but a higher likelihood of success.

- **Firm branches play a very important role**

The analysis also reveals that branches (an office of a firm located somewhere other than the firm's main office location) are playing a very important role in transforming the economic geography and development of Rwanda. Branches are the fastest growing group of firms. They introduce products and services that were not previously available to locations. They therefore weigh heavily on local economies. For example, branches contributed to total sales as follows:

- 40% in Rubavu;
- 35% in Huye;
- 30% in Nyamata; and
- 26% in Byumba and Rusizi.

Branches are not only important locally, but also for cross-border transactions: There is a high concentration of branches in areas of the country that are close to national borders. The branches of Rwandan banks, supermarkets, and accommodation providers in cities that are close to a border do not only service Rwandan customers, but also individuals and companies located on the opposite side of the border. We recommend that policy makers look into options to facilitate the growth of Rwanda's branch economy.