



POLICY BRIEF

# The economic geography of Rwandan cities

A study of Rwandan secondary cities

**Kigali dominates  
the Rwandan  
economy, and is  
growing faster than  
Rwanda's  
secondary cities.**



## The context

Urbanization is a policy priority for the Rwandan government, and an important driver of economic growth, improved living standards and a better quality of life. However, if this process is poorly managed, it can lead to urban sprawl, divided cities, and high urban unemployment and poverty.<sup>1</sup> While Rwanda is urbanizing quickly, the urbanization rate in the country is still low compared to other East African countries, and most of the urban population is concentrated in the capital city of Kigali.

**Rwanda is urbanizing quickly, but not as fast as other East African countries.**

## The study

Funded by the IGC and supported by the Ministry of Infrastructure of Rwanda and the Rwanda Revenue Authority, this study uses new data sources to provide a portrait of the reality of economic geography and urbanization in Rwanda, both in Kigali and in secondary cities.



# KEY FINDINGS

**Secondary cities are growing, but only Kigali shows the potential to develop advanced economic activities in the short term.**



**Kigali dominates the Rwandan economy.** An estimated 45% of all small, medium and large firms in the country based in the capital city. Kigali is the central hub of most internal trade, and structural transformation is also mostly confined to this city.



**The wealthiest are migrating from rural to urban areas.** This results in low penetration of formal economic activities in rural areas; indicates the poorest face financial barriers to migration; and has implications for future migration patterns.



**Urbanization crosses city boundaries.** This points to the importance of coordinated policies - and transport - across administrative areas.



**Economic activity spreads across the country mostly via new establishments (branches) of existing companies.** Growth in new private sector establishments is highest in cities where there were fewer firms than expected given the population level.

## Background

**East Africa is urbanizing quickly and Rwanda is no exception.** Urbanization is a policy priority for the Rwandan government, and it is important that the process is well managed in order to become a driver of economic growth. However, the urbanization rate in the country is still low compared to other East African countries, and 59% of the total urban population is concentrated in Kigali, the capital city. Kigali is also significantly smaller than other primary cities in the region.

**Kigali's urban primacy is the highest in East Africa: in other countries the primary city accounts for a much lower share of urban population.** Kigali's primacy is explained by the small size of the country's secondary

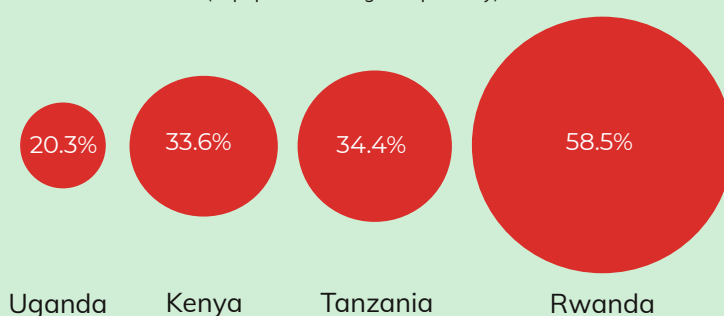
cities. This points to a large potential for developing Rwanda's secondary cities. Laterite carried out a study of Rwanda's economic geography using a variety of new and unique data sources. The analysis focuses on urbanization and population density patterns in Rwanda; the geography of firms in the country; structural transformation at the city-level and its implications; and internal trade between Rwandan cities.

This study aims to inform decision-making on urban policy in Rwanda, with a view to sharing the benefits of urbanization without incurring the negative consequences of uncontrolled growth of the primary city. This brief outlines the key findings of the research and its policy implications.

## What is urban primacy?

Urban primacy is defined as the share of the largest metropolitan area in the national urban population.<sup>2</sup> Having a high level of urban primacy is part of the development process, particularly in small countries. While there is not sufficient evidence to conclude on the effects of urban primacy on GDP growth, the literature converges on the idea that urban primacy comes at the expense of spatial integration. Urban primacy in the African context has been associated with sprawl leading to cities that are crowded, disconnected, and costly for both firms and households.<sup>3</sup>

**Figure 1** / Primacy of capital cities in East Africa (% population living in capital city)



# Findings

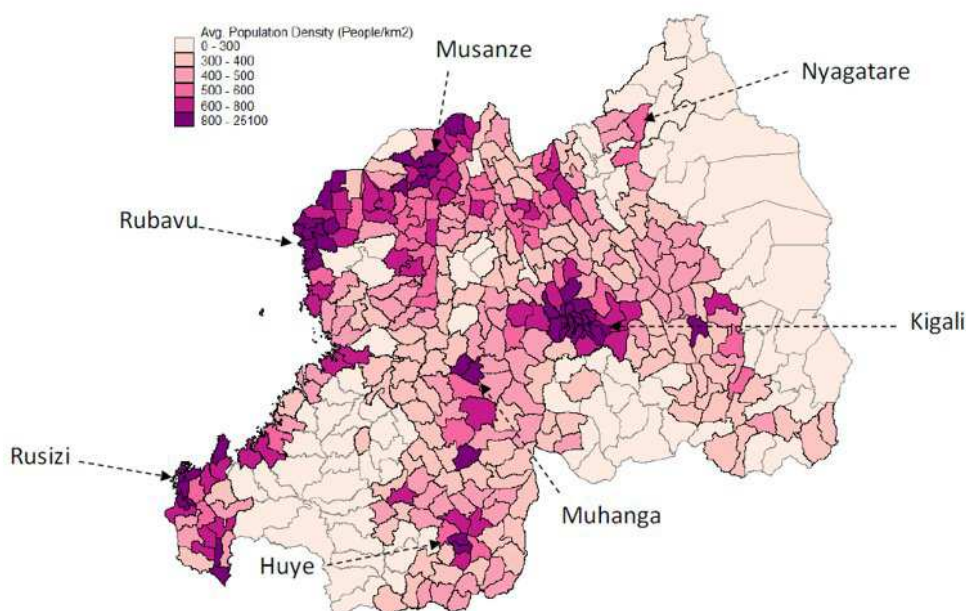
## Kigali dominates the Rwandan economy

Many indicators point to a large and increasing relative weight of the capital city in the Rwandan economy. For instance, 85% of sales and 80% of transactions in the formal economy – as measured by Electronic Billing Machine (EBM) data (see methodological note) – originate in Kigali. According to the 2017 Establishment Census (National Institute of Statistics Rwanda), an estimated 45% of all small, medium and large firms were based in Kigali – about 10% more than expected given its population size. The data also shows that Kigali's weight in the economy has been increasing over time.

## The wealthiest are migrating from rural to urban areas

This finding, which is aligned with empirical evidence from other developing countries, has several implications. First, this trend contributes to increasing spatial imbalances, such as the low penetration of formal economic activities in rural areas. Second, it indicates that there are financial barriers to the migration of the poorest. Third, the poorest migrants are currently re-locating to other rural areas, but this will not always be the case. Push factors, including the loss of land, employment and a lack of opportunities, are driving migration of the poorest. As land becomes scarcer and competition for jobs as farm laborers increases, these migrants will look for new opportunities in cities. It is important that cities are prepared for this growth.

**Figure 2** / Population density by sector (2012 census data)





## Urbanization crosses city boundaries

Rwanda is urbanizing not only in and around cities, but also along broad axes connecting cities (Figure 2). This finding underlines the importance of coordinated policies across cities and administrative areas, as well as the economic importance of inter-city transport connectivity.

**Growing urban centers can also have a poverty-alleviating effect on the nearby rural populations.** Along with Kigali, the cities with the greatest potential from this perspective are Musanze, Rubavu, Huye and Muhanga (Table 1). Strengthening the connection between the economies of these cities and this large population pool is strategically important.

## Structural transformation is mostly confined to Kigali

The pace of structural transformation – the gradual shift of workers toward manufacturing and service activities fueled by productivity growth in agriculture – has been much faster in Kigali than in the rest of the country over the past 15 years. While the structure of Rwanda's economy is changing, the growth of urban centers outside Kigali has not yet led to an economic convergence or "catch-up" with Kigali. On the contrary, evidence suggests that the gap has widened slightly (Table 2).

**Table 1.** / Rwandan cities with the largest surrounding populations

City	Population (2012)	Population within 15km of the city (2012)
Kigali	846,000	1.1 million
Musanze	102,000	500,000
Rubavu	149,000	374,000
Huye	45,000	364,000
Muhanga	45,000	344,000

**Note:** Figures rounded to the nearest thousand.

**Source:** 2012 census data.

**Table 2.** / Change to the proportion of the population working in agriculture over 15 years

	% population working in agriculture (2002)	% population working on agriculture (2016-17)	% change
Kigali province	39%	14%	-25%
Other districts	92%	75%	-17%

**Source:** 2012 Housing and Population Census; 2016-17 EICV 5 survey.

The analysis of census occupation data reveals that districts in the Province of Kigali have a comparative advantage in most high-skill activities. We define a comparative advantage in a given activity if the proportion of the employed population working in this activity is higher than the national average. A few districts in secondary cities have a comparative advantage in knowledge-intensive or high value-added activities alongside Kigali.

Huye, in line with its historic strength in university-level education, specializes in scientific research and higher education, but also in agriculture support activities. Rusizi stands out for its fishing sector and support activities for the transport sector; Rubavu specializes in beverage manufacturing, and has a comparatively high proportion of workers in the retail and accommodation sectors; Musanze specializes in road construction and community services, and a high proportion of workers in the retail sector; and Muhanga specializes in mining.

**Additional analysis based on a “smart specialization” framework<sup>4</sup> reveals that only districts within Kigali have clear potential to further develop advanced economic activities.** The analysis also suggests that all other districts in Rwanda do not have a clear pathway to easily develop knowledge-intensive activities, given the current sectoral composition. This suggests that a sector-focus should not be the central pillar of a spatial development policy.

## **New establishments of existing companies spread economic activity across the country**

Private sector establishments are increasingly concentrated in urban areas and the capital, but a rapid increase in establishments is also taking place in secondary cities. The total number of private sector establishments increased at 7.1% per year between 2014 and 2017 (9.1% per year in urban areas, and 5.9% in rural areas), and at 9.9% per year in Kigali. In Muhanga, the number of firms increased by 30% per year in the same period. Other cities, such as Rwamagana, Kayonza, and Nyamata, also had growth rates of more than 10% per year. In general, the increase in the number of establishments was highest in cities where there were fewer firms than expected given the population level (in 2014).

**This growth was driven by new establishments (branches) of existing firms, which bring products and services to parts of the country where they were previously unavailable.** Branches are very prevalent in the wholesale and retail trade industry (for example through the establishment of supermarket chains in the country), the banking and insurance industry, the telecommunications industry, the accommodation sector and the manufacturing sector.



## Kigali is the central hub of most internal trade

The spread of economic activity across the country also increases inter-firm linkages, with the geographic distance between firms a key determinant. Firms tend to trade more with businesses nearby: 50% of transactions are between firms within 4.3km of each other, and 75% between firms within a 10km distance.

Firms in secondary cities and other emerging towns of Rwanda mostly trade with firms in Kigali; other city-to-city trade routes are very small. Rwanda's internal trade network is hierarchically structured: Kigali acts as the central hub, connecting different parts of the country. Note that Kigali is made up of three districts: Gasabo, Kicukiro and Nyarugenge. Econometric estimates based on a gravity model\* suggest that Kigali holds a larger share of internal trade than would be expected by its population and the distance to other cities. The same estimates also show that road infrastructure is a strong predictor of internal trade linkages.

**Rwanda's internal trade network is hierarchically structured: Kigali acts as the central hub, connecting different parts of the country.**



\*This approach is very popular in the economic trade literature. See, for example, Walter, I. (1954). Location Theory and Trade Theory: Short-Run Analysis. Quarterly Journal of Economics, 68 (2), pp. 305–320.

# Policy take-aways

## **Focus on striking the right balance between investing in Kigali's growth and developing Rwanda's secondary cities**

Rwandan secondary cities are still very small, particularly compared to other cities in the region, and they are growing at a slower pace than Kigali. Indeed, many indicators point to an increasing divide between Kigali, the primary urban agglomeration, and other urban areas. While the rapid development of Kigali is good news for the Rwandan economy, widening inequalities may pose concerns in terms of management of migration flows, uncontrolled urban and peri-urban growth in Kigali, and national cohesion.

## **Urban policies concerning secondary cities should play to their strengths**

Secondary cities are not equivalent in their growth trajectory. It is therefore important to base policies on a realistic assessment of the existing comparative advantages of secondary cities, and use this information to allocate funding and select priorities for the urban development of the country. Rubavu appears to be the city with the highest potential for growth based on its

population and rate of growth; along with the number of new and existing firms and its strategic cross-border location.

## **Think beyond the boundaries of specific cities or other administrative areas**

This is important for two reasons. First, Rwanda is urbanizing around cities but also along broad axes connecting cities. Policy makers might consider the introduction of new administrative units that more closely match the urban growth patterns, so that policy fragmentation is minimized, and decisions are taken at the appropriate spatial level. It's also important to focus on improving the physical connections between cities by investing in road and transport infrastructure, which has been shown to be a strong predictor of internal trade linkages.

Secondly, evidence suggests that the economic influence of cities reaches beyond city limits. The potential of a city is determined by its citizens together with the population in its surrounding areas. This means that the growth of an urban center can have a poverty-alleviating effect on the rural population nearby.

# REFERENCES & NOTES

## REFERENCES

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- <sup>4</sup> Balland, P.A., Boschma, R., Crespo, J. & Rigby, D. (2018). Smart specialization policy in the European Union: relatedness, knowledge complexity and regional diversification. *Regional Studies*, 53(9), pp. 1252-1268.

## METHODOLOGICAL NOTE

The report relies on the extensive use of the Electronic Billing Machines (EBM) dataset of the Rwandan Revenue Authority, which introduced these machines in 2013 for tax compliance purposes. While the data is based on a unique dataset that has never been used in the Rwandan context for the purpose of domestic trade analysis, it also has a number of limitations. First, EBM data is noisy; all data is manually input and registered which means that it is prone to errors and inconsistencies. As such, our analysis of the EBM dataset excludes any anomalous results while compiling the dataset. Second, EBM data is only representative of formal firms earning revenues greater than RWF 20 million annually. Of the approximately 13,566 formal firms in Rwanda (Establishment Census 2017), 88% of them have at least one EBM machine. Third, even though EBM machines are required to be used by all formal firms, a large proportion of firms with EBM machines do not actively use them. While there has been recent growth in the adoption and use of EBM devices by Rwandese firms, there is still a large proportion of firms (~58%) that do not use these machines.

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## ABOUT LATERITE

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