

Final report



International  
Growth Centre

# The commercial real estate market in the city of Kigali



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## **The commercial real estate market in the city of Kigali**

by

**The Institute of Policy Analysis and Research (IPAR - Rwanda)**

for

**Surbana Jurong Consultants and International Growth Centre**



**Dickson Malunda (IPAR), Martin Ruzima(IPAR) & Jonathan Bower (IGC)**

**May 2020**

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## 1. Executive summary

### Background

City of Kigali commissioned a review of the Kigali Master Plan in 2018-2019, which was then conducted by urban planning company Surbana Jurong. As part of this review the City requested that a number of baseline studies are done to inform the review, of which this study, which covers commercial real estate, is one. The objective of the project is to present a range of important facts about commercial real estate in Kigali and nine commercial nodes within it for the first time, understand market confidence, analyse determinants of occupancy rates and rents, make some assessment of the impact of the 2013 Master Plan regulations on the commercial real estate sector, and propose policy directions that will achieve better market performance. In this study we sought to answer the following questions:

- What are the important characteristics – including usage, height, age and location – of commercial real estate in Kigali?
- What is the status of confidence in the commercial real estate market among owners and developers, and what issues do they raise that may need to be solved?
- What are occupancy rates, and what drives them? Does 2013 Kigali Master Plan zoning have an impact on them?
- What are rent levels, and what drives them? Likewise, does 2013 Kigali Master Plan zoning have an impact?
- Taking these facts together, and drawing on other research, what policies would benefit or solve issues in the commercial real estate sector in Kigali?

For this study, we define commercial real estate as storied buildings located along main roads within the commercial centers and housing several business units including grocery, electrical, hardware shops, hotels, office premises for different services etc. These include shopping malls, arcades, shopping centers etc. Industrial buildings, warehouses, apartments and rentals (for personal accommodation) were not included despite being business entities

### Findings

The key findings from the study are presented according to the following themes.

## **Overview, funding sources and market confidence**

- Of the 456 commercial buildings sampled in this study, just 12% have more than 3 storeys, and 60% have one storey. Commercial real estate is low-rise and is not densified. We discuss this in the recommendations below.
- The top three categories of usage of commercial real estate in our sample were retail/wholesale at 47%, offices at 19% and hotels/restaurants at 13%.
- Private equity is the major source of funds for construction of commercial buildings in Kigali, having paid for 54% of the buildings in our sample. About 37% of commercial buildings in Kigali City were funded by single commercial bank and 2% were funded by more than one bank. Bank credit is perceived to be very expensive and this cost is perceived to feed through to increased rent charged.
- The majority of owners think that their buildings will be commercially viable in the medium term (37%) and long term (40%). Around a fifth of owners say their properties are not viable or viable only with government support. Interestingly, most owners express a certain degree of confidence in the commercial real estate sector in general; 36% have a medium level of confidence, 24% have high confidence and 15% have very high confidence in the commercial real estate sector in general.

## **Tenancy and renting**

- 
- The average occupancy rate in our Kigali sample is 85%. The highest occupancy rate by commercial centre is Remera at 93%, and the lowest is Kicukiro at 76% although Kicukiro has a fairly small sample size. Strikingly, 16% of the 89 buildings sampled in the Central Business District, are occupied at a level below 50% level. There is little correlation between the time the building was opened for business and the average occupancy rate. Dividing the nine business nodes surveyed, into three Metropolitan Statistical areas, occupancy rates are lowest in the Central Business District, at 82%; they are highest in city suburbs at 88%.
- Location is extremely important as a determinant of the choice of rental property by tenants. Proximity to clients is by far the most important reason for renting at a specific location

according to 46.3% of tenants. This is followed by location prestige at 18.2% and cheap rent at 14.5%<sup>1</sup>.

- On cost of renting per unit, Kimironko has the lowest median rent for commercial space per unit per month at 100,000 RWF; the most expensive place to rent is Kimihurura with a median rent of 946,500 RWF, although there is a small sample size of 10 properties for which data exists; the second highest median rent per unit per month is much lower at 341,667 RWF, in Remera. The most expensive place by cost per square metre is, unsurprisingly, Nyarugenge CBD at 15,000 RWF; the cheapest commercial centres are Kimironko and Kicukiro which cost 2,000-3,000 RWF per square metre.

### **Drivers of occupancy rates and rent rates**

We conducted regression analysis of the drivers of occupancy rates. Our findings show that zoning regulations matter; relative to commercial buildings located in industrial zones, commercial buildings located in the R1 zone in the 2013 Master Plan, which had less stringent regulations in terms of number of floors than the other zoning categories, have significantly higher occupancy rates. Commercial buildings located in the R3 zones which have had more demanding building regulations, have significantly lower occupancy rates. We also find that buildings opened for business after 2015 have slightly lower occupancy rates. The more bills (such as water, electricity, furnishings, municipal bills) are embedded within the rent package, the lower the occupancy rates of commercial buildings within our sample. Commercial buildings located in the city suburbs of Nyabugogo and Remera have higher occupancy rates than the other commercial nodes in our sample; Kicukiro has slightly lower occupancy rates. Buildings which are constructed using developers' own funds (equity) have slightly higher occupancy rates.

We also conducted regression analysis to find the determinants of the cost of monthly rent per unit. A larger building with more space and more floors, has higher rents per unit. As for occupancy rates, zoning regulations matter - commercial buildings located in areas zoned as commercial in the 2013 Master Plan, have significantly *higher* rents compared to other zoning – and in this dataset the other

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<sup>1</sup> Literature (Celka, 2011; Sanderson, 2015; Sanderson & Edwards 2016) and intuition states that location drive price, and that perceptions of value for money depend partly on location, so it is hard to disentangle these two factors.

zoning is largely residential. According to key informant with developers, the reason for this commercial property is more expensive to build and tougher regulations with respect to the required number of floors has increased the average cost. Lastly, the use to which commercial buildings are put matters: relative to other uses, buildings rented out for retail and wholesale purposes have significantly lower rents.

### Reflections and recommendations

In this section we draw on insights from the descriptive statistics above, key informant interviews, and principles from existing research, and present reflections and recommendations on how to facilitate growth of the commercial real estate sector. These are not in any way exhaustive and supplement important recommendations made in the Kigali Advisory Councils of December 2018 and February 2020 on urban planning for live streets, construction permit restructuring, the construction sector and developer fees to fund infrastructure.

- **Commercial real estate needs to densify, but at an appropriate rate.** Whilst there is occasional over-investment in tall commercial buildings in Kigali that then lie empty, most commercial real estate in Kigali is single-storey, and thus not densified, both contributing to sprawl in built form and reacting to it. Densification is an important pillar of Rwanda's Urbanisation Policy (2015); compactness enables proximity and connectedness which promotes economic growth through a number of channels. As for housing, commercial real estate thus needs to densify, but in a way that the market can sustain – for example, single storey buildings close to important commercial centres could add one or two more storeys. The Government might consider policy incentives to densify and that optimally unlock resources from the private sector for commercial real estate development that would otherwise be unavailable.
- **Flexibility in zoning and building regulations, is important and can reduce the need for expensive bank loans.** Flexibility in terms of location, in terms of the stringency and cost of meeting zoning and building regulations, and in terms of allowing incrementalism and local construction materials, are important. The next Kigali Master Plan has to address this – and by the time of publishing, is doing so. It also has to address the fact that there are so many



commercial buildings in residential areas and that under the 2013 Master Plan rent was cheaper in R1 zones than commercial zones. Flexibility and incrementalism will also reduce the pressure on owners to borrow and develop properties at very high interest rates, which will help reduce costs, lower rents and increase occupancy rates.

- **Commercial real estate finance should be made more affordable:** It will be also important to find ways to reduce the high interest rate. A full discussion is beyond the scope of this paper, but solving the issue is vital to unleash the power of land collateral to fund commercial real estate. Innovative arrangements such as the pooling of resources by several commercial real estate developers in order to get favorable loan terms, might be explored.
- **Whilst Kigali is highly economically dominant in Rwanda, our study shows that the Central Business District is only slightly dominant compared to some other commercial nodes in Kigali.** It is worth comparing the various findings on the CBD in this study and presenting them together. To the casual observer, CBD has the most visible set of tall buildings in the City of Kigali, but other areas have commercial real estate that is nearly as large and densely occupied. The area has the highest median of 8 tenants per building; this is closely followed by 6 in Kacyiru and Gisozi. Moreover, CBD does not have the highest rent cost per unit – that position is held by Kimihurura followed by Remera, although it is the most expensive place in the city by mean cost per square metre at 15,000 RWF. This implies smaller average unit sizes in the CBD compared to Kimihurura and Remera. Occupancy rates are not the highest, nor the lowest, in the CBD, but there is a concerning proportion of buildings that are less than half-occupied, at 16% of the buildings sampled. Interestingly, a higher percentage of building owners in the central business district believe that their buildings will be commercially viable in the medium term as compared to owners of buildings in the city suburbs.
- **Rapid administration of construction permits is important, including at District level.** Key informant interviews show that at the time of the survey, administration of construction permits was much slower at the District level than at the City of Kigali level. Government of Rwanda is working to improve the construction permit fee process at the City of Kigali (Hlambelo et al, 2020), but attention should be paid to the process at the district level too. A Pricewaterhouse Coopers report found that permit delays raise tenant costs in new and

existing buildings, and that reduced permit times in one location attracts investment from other locations with less efficient permit processes; this increased investment can then catalyse broader multi-sectoral economic benefits

- **Clarity of zoning is important to investor confidence.** Key informant interviews show that once Master Plan zoning has been decided, it should not easily change: if developers buy a piece of land, but the zoning for that land changes, they could lose money if they are unable to develop the land as had been planned, which undermines investor confidence.
- **Commercial real estate owners should explore new business models:** Flexible rental arrangements such as the sharing of office space or commercial space among several small and medium enterprises might allow more SMEs to afford prime locations which are close to their clients, and increase occupancy rates. Examples of these models include the Westerwelle Startup Haus, the Impact Hub Kigali and the Office; whilst these models would have to be tailored to local tastes, their initial success is promising.
- **Sound market analysis is urgent for developers:** Commercial real estate developers would do well to study the types of businesses that they are targeting to rent their buildings after completion; this would enable them to tailor the building design and cost to the needs of their target market.
- **Government might study the impact of the current suite of business taxes on commercial real estate.** Under the 2018 property tax law, the tax rate on commercial buildings is lower than the tax rate on residential real estate – which is unconventional as in most countries commercial real estate faces higher tax rates (Kopanyi 2019); moreover, commercial real estate tax rates are low compared to many countries both in the regional and globally. However, businesses face a whole suite of taxes – and in key informant interviews, developers claimed that high taxes on rent, corporate taxes and other taxes, raise the cost of commercial real estate and reduce the purchasing power of businesses to pay rent. Given these complaints, Government might study the whole suite of taxes businesses face as a package rather than individually, and investigate if there is an adverse impact on commercial real estate.

## 2. Data

In 2018 and early 2019, IPAR conducted a survey among 1,476 tenants and 456 commercial buildings owners within 9 Commercial centres in the city of Kigali. These commercial centres included Nyarugenge (the Central Business District), Nyabugogo, Nyamirambo, Gisozi, Kacyiru, Remera, Kimihurura, Kimironko, and Nyamirambo. Our survey asked respondents about location specific aspects of commercial buildings; occupancy rates, pricing in terms of rent and rent components, commercial real estate by usage type; construction costs and others; we also conducted surveys among tenants in order to get some understanding of the demand side within Kigali's Commercial real estate market. We also held key informant interviews with stakeholders' architects, owners of buildings and tenants occupying these buildings of which we were informed in detail the procedures taken before and after establishing commercial real estates. Finally, we obtained commercial real estate supply side data from the City of Kigali Building Permits Information database which spans three years between 2015 and 2018.

The locations of the buildings from which we sampled the owners and tenants are reported below. Gasabo district had the highest number of commercial buildings in our sample with 255 (55.9%), followed by Nyarugenge with 169 (37.1%) and Kicukiro with a much smaller sample size of 32 (7.0%). The sample is thus skewed towards Gasabo District which has 37.1% of firms in Kigali; Nyarugenge has 36.8% of firms and Kicukiro has 26.1% of firms (Establishment Census 2017).

**Table 1: Number of sampled commercial buildings per district**

No.	District	Number of buildings	Percent
1.	Nyarugenge	169	37.1
2.	Gasabo	255	55.9
3.	Kicukiro	32	7.0
	<b>Total</b>	<b>456</b>	<b>100.0</b>

We subdivided the city into nine commercial nodes or centres. We sampled 98 buildings in Kimironko, the highest number which makes up 21.5% of the sample. Nyarugenge (CBD) ranked second with 89 (19.5%) commercial buildings while Kimihurura had the lowest number with 13 commercial buildings making up 2.9% of the sample. Thus an important caveat to our study is that our findings are based on a sample which has a wider coverage of some commercial centres.

**Table 2: Number of Sampled commercial buildings per commercial centre**

<b>Commercial centre</b>	<b>Number of building</b>	<b>Percentage</b>
Nyarugenge (CBD)	89	19.5
Nyabugogo	80	17.5
Kimironko	98	21.5
Remera	83	18.2
Nyamirambo	30	6.6
Gisozi	16	3.5
Kimihurura	13	2.9
Kacyiru	25	5.5
Kicukiro	22	4.8
<b>Total</b>	<b>456</b>	<b>100</b>

### **3. Findings from descriptive statistics**

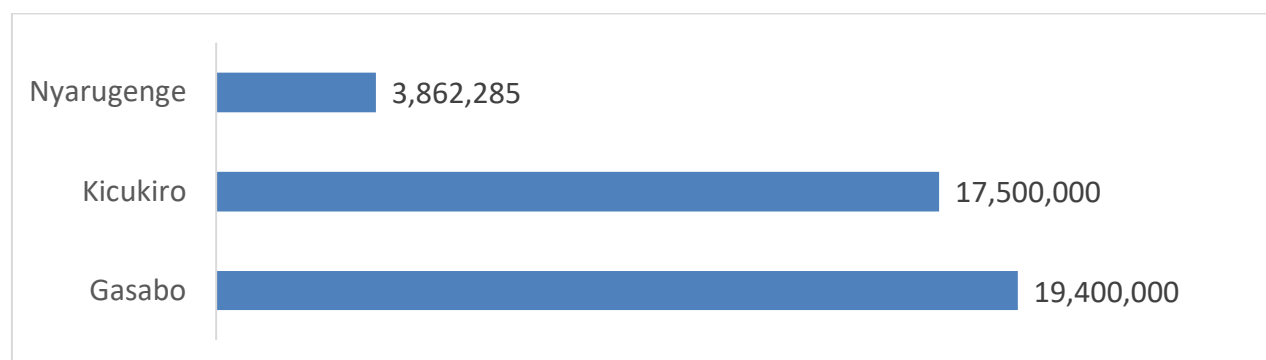
#### **3.1 Supply, construction, building usage and commercial viability**

##### **3.1.1 The supply of new floor space during 2015-2018**

According to data from the City of Kigali Building Permit Management Information System (BPMIS), the total floor space for all types of construction permits that were issued in the city of Kigali between 2015 and 2018 is about 40.8 million square metres. This represents some mixture of anticipated and actual new floor space: once potential developers receive building permits, some may complete their buildings in good time and others may be unable to do so or fail to do so. Of these, the majority of the new construction is taking place in the more residential districts of Gasabo and Kicukiro which account for 19.4 million square metres and 17.5 million square metres respectively. Nyarugenge

District, which houses the Central Business District of Kigali, only accounts for 3.86 million square metres (9%) of the new total floor space as shown in **Error! Reference source not found.** and Figure 3; however, a total breakdown shows that over three fifths of the 40.8 million square metres is residential, which may account for this.

**Figure 1: Anticipated supply of floor space by district (2015-2018)**



Source City of Kigali One Stop Centre Building Permit Management Information System

A further breakdown of the types of building permits that were issued over the three-year period shows that much of the new construction is residential and accounts for 61% (or 24.9 million square metres) of anticipated floor space. Commercial real estate floor space comes second in terms of anticipated supply of commercial space and account for 20.5% (8.36 million square metres). Industrial buildings account for 9% of the anticipated floor space.

**Table 3: Total floor space per building use 2015-2018, Kigali**

Building use	Total floor space (Sqm)	Percent
Agricultural building	13,137	0.03%
<b>Commercial buildings</b>	<b>8,368,752</b>	<b>20.50%</b>
Educational buildings	751,015	1.84%
Health buildings	328,436	0.80%
<b>Industrial buildings</b>	<b>3,857,076</b>	<b>9.45%</b>
Infrastructure buildings	61,197	0.15%

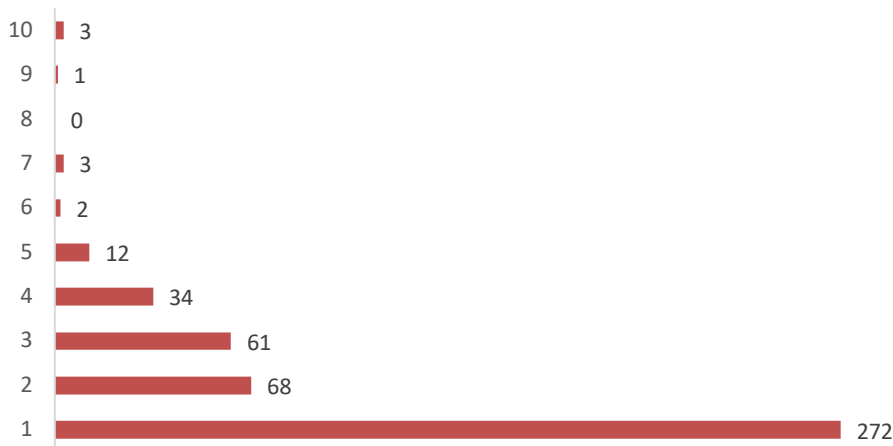
Mixed use buildings	815,027	2.00%
Modified Buildings	767,921	1.88%
Office buildings	591,195	1.45%
<b>Residential buildings</b>	<b>24,900,035</b>	<b>61.01%</b>
Social and cultural building	304,906	0.75%
others	56,401	0.14%
<b>Total</b>	<b>40,815,098</b>	<b>100%</b>

Source: Building Permits Management Information System, City of Kigali One Stop Center 2015-2018

### 3.1.2 Building and unit size

In Kigali, of the 456 buildings sampled, 272 – or 60% - are single storey buildings; of the remaining buildings, 15% have two storeys, 13% have 3 storeys and the remaining 12% have more than three storeys. This illustrates the extent to which commercial activity in Kigali is not densified – although any densification should be done in an incremental and flexible manner. Figure 3 shows the average number of square metres per building by commercial centre. The accuracy of these figures is dependent on the precision of the figures given to the enumerators by the landlords, and the usual caveats on sample size apply for some of the commercial centres.

Figure 2: Number of floors per building - Kigali



**Figure 3: Median square metres per building available to rent out to tenants (occupied and unoccupied)**

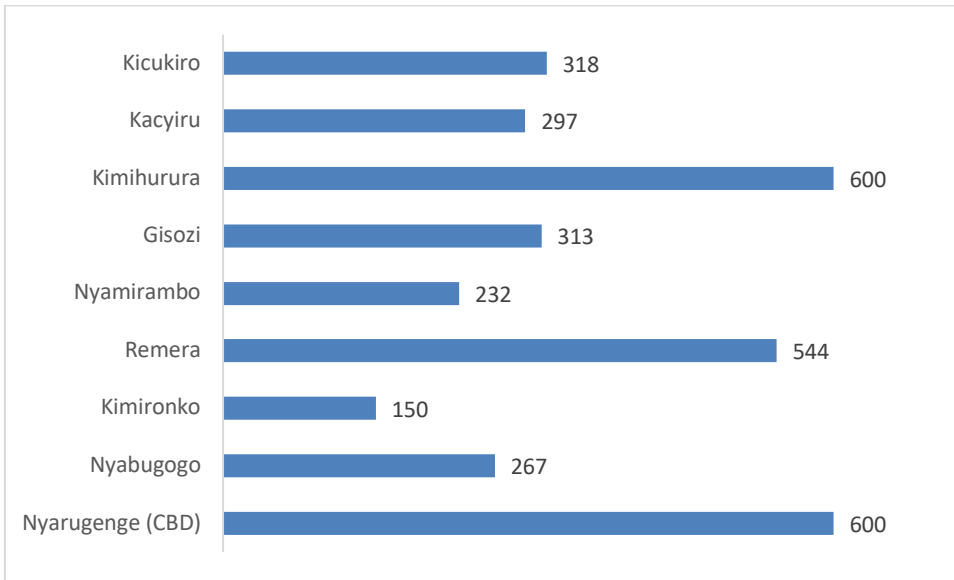
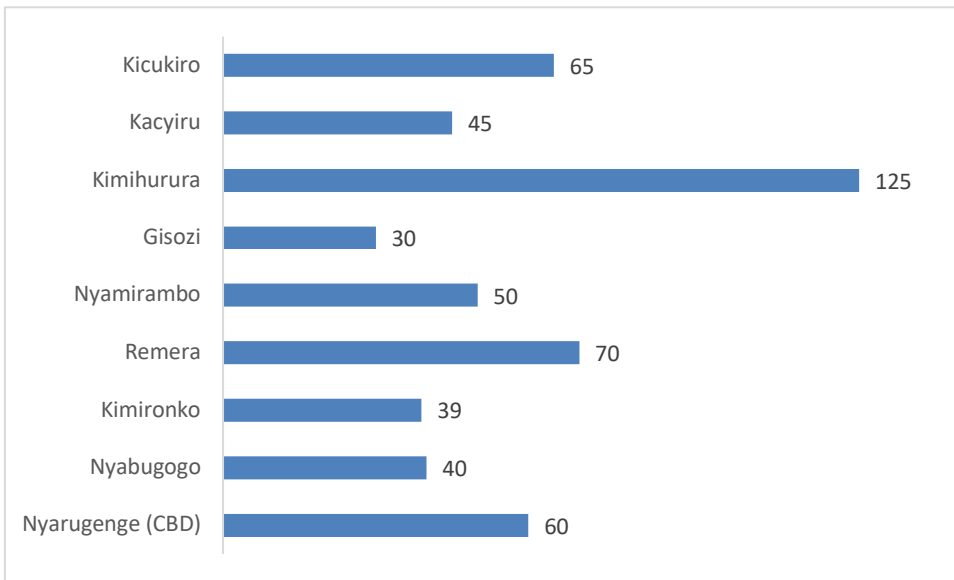


Figure 4 shows the median square metres per unit; Gisozi has the smallest median at 30 metres squared per unit, and Kimihurura has the largest at 125 metres squared; its sample size is just 10, so it is also worth noting that the second ranked commercial node in terms of unit size is Remera with 70 metres squared per unit. CBD is fourth ranked of nine with a unit size of 60 square metres.

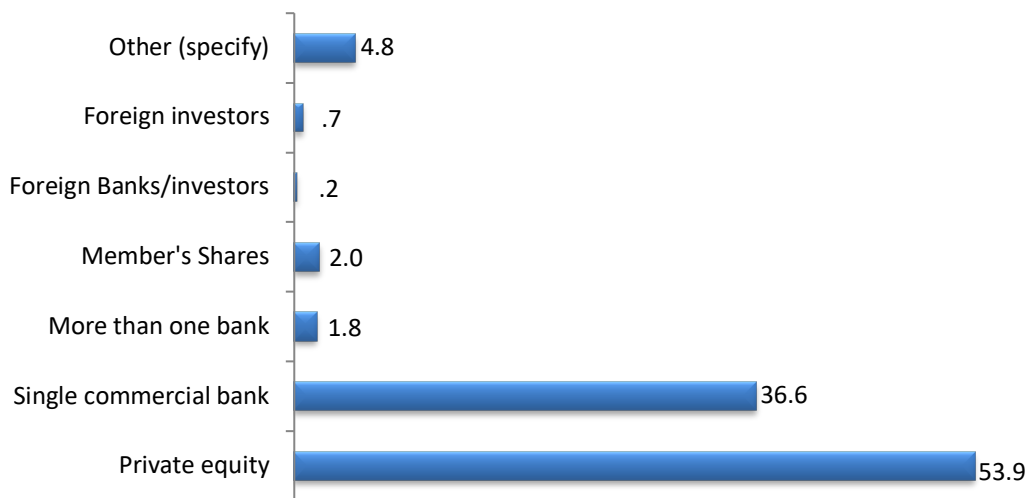
**Figure 4: Median square metres per unit available to rent out to tenants (occupied and unoccupied)**



### 3.1.2 Source of funds for construction of commercial buildings

**Error! Reference source not found.** and Figure 5 show that private equity is the major source of funds for construction of commercial buildings in Kigali, having paid for 53.9% of the buildings in our sample. About 167 (36.6%) commercial buildings in Kigali City were funded by single commercial bank. Members' shares have been able to fund 9 (2.0%) commercial buildings. Only 8 (1.8%) commercial buildings got fund from more than one bank. Besides, foreign investors and foreign banks funded 3(0.7%) and 1(0.2%) commercial buildings respectively.

Figure 5: Source of funds for construction - percentage

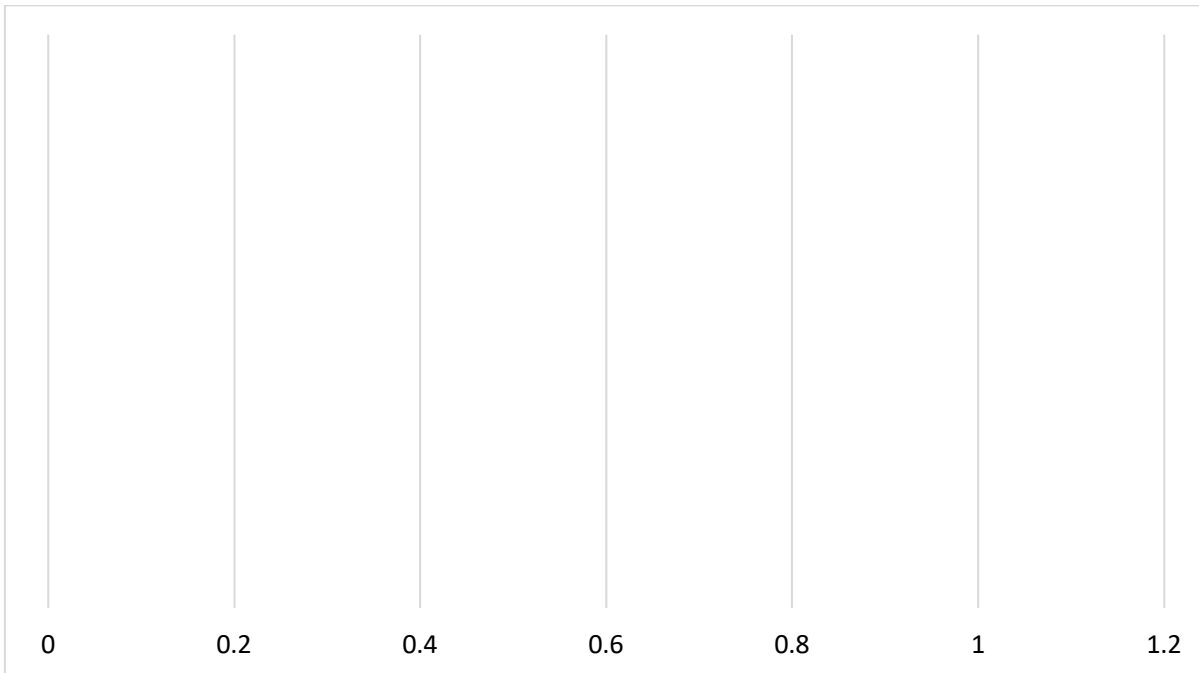


### 3.1.3 Commercial building usage and market segmentation

Figure 6 shows that at 46.7% of commercial property usage, retail/wholesale businesses are the major activities occupying property in the city of Kigali. Other significant activities using property in Kigali include offices and hotels/restaurants with 17% and 13% respectively. Among the other activities, multifamily residential uses 1% of the total property and 0.4% have industrial uses. However, given that industries and warehouse have special economic zones within the city, they were not part of our sample.

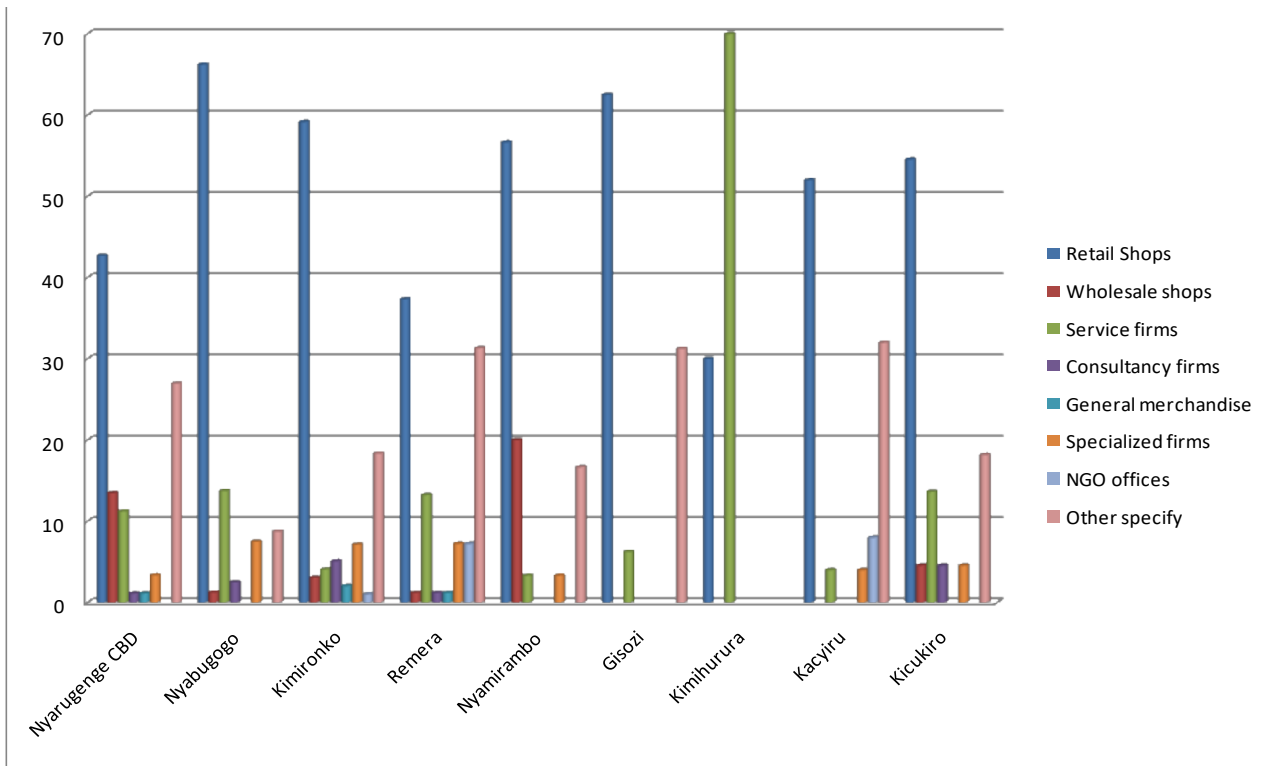


Figure 6: Main property usage - percentage



As shown in Figure 7, of all commercial nodes in Kigali containing retail shops and service firms, Nyabugogo has the highest percentage; Nyamirambo has the highest proportion of wholesale shops, Kimihurura – although it has a low sample size – has by far the highest proportion of service firms, and Kacyiru and Remera have the highest proportion of NGO offices.

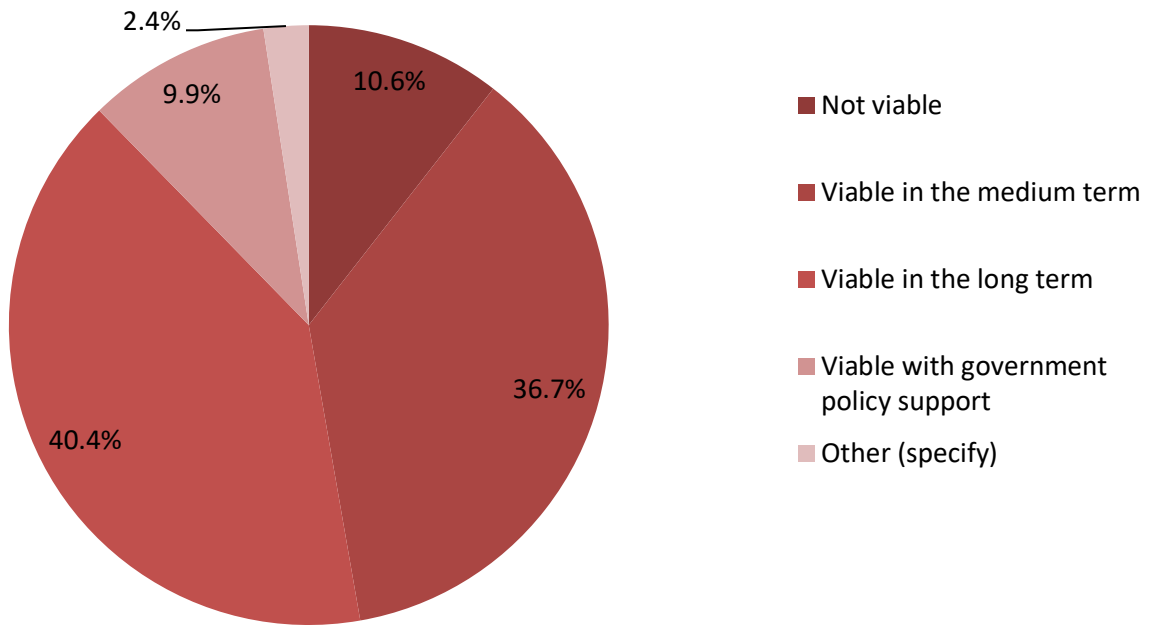
**Figure 7: Real estate market segmentation by commercial centre**



### 3.1.4 Owner confidence in viability and commercial real estate industry

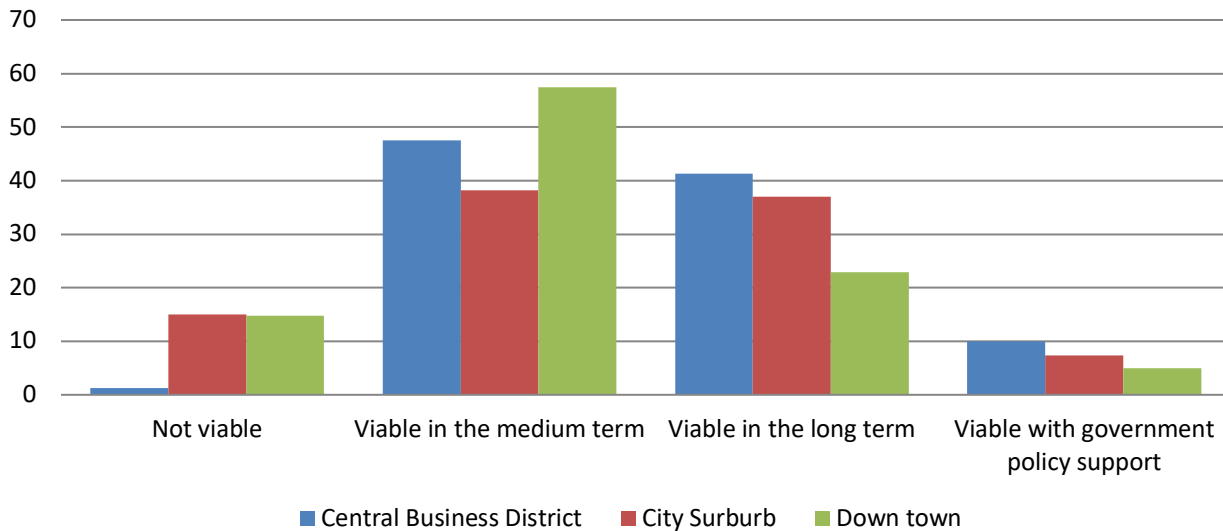
The majority of owners believe that their buildings will be commercially viable in the medium term (36.7%) and long term (40.4%). A tenth state that their properties would be viable with government support as shown in Figure 8.

Figure 8: Owner assessment of commercial viability of buildings



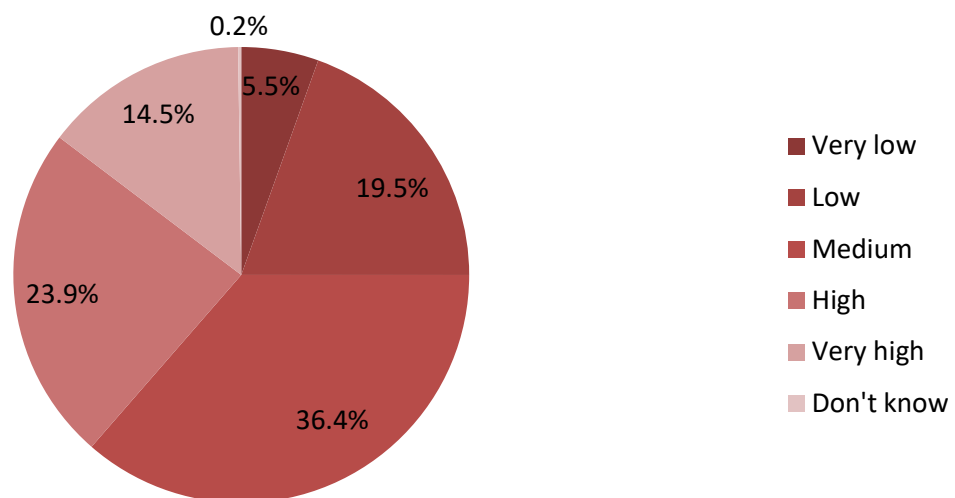
A breakdown in owner perceptions of viability of commercial real estate by Metropolitan Statistical Area shows, interestingly, that a higher percentage of building owners in the Central business district and down town area believe that their buildings will be commercially viable in the medium term as compared to owners of buildings in the city suburbs – see Figure 9. In addition, less than 3% of the building owners in the central business district think that their buildings will not be commercially viable compared to about 10% of the owners in both the city suburbs and the down town area. This shows more optimism among building owners in the CBD despite the CBD being most affected by low occupancy rates.

**Figure 9: Viability of commercial real estate by Metropolitan Statistical Area - percentages**



Owner confidence in the future of the commercial real estate market is reasonably healthy if mixed – three quarters of owners have medium, high or very high confidence in the sector. Of these, 36.4% have medium confidence whilst 23.8% of the owners have high confidence. However, 19.5% of owners have low confidence and 5.5% have very low confidence in the sector.

**Figure 10: Owner assessment of confidence in commercial real estate sector**

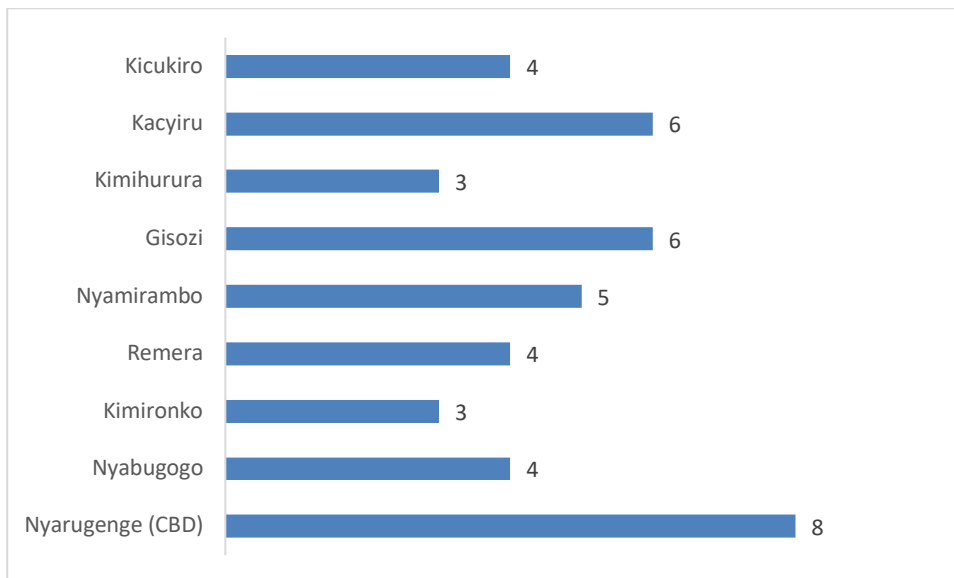


### 3.2 Findings on renting commercial buildings

#### 3.2.1 Tenants, and tenants per building, by commercial centre

Figure 11 shows the median number of tenants per building. Not surprisingly, CBD has the highest median at 8 tenants per building, Kacyiru and Gisozi have the second highest with 6 tenants per building, and Nyamirambo has the third highest median of 5 tenants per building. Mean figures are not displayed as they are skewed upward by the largest buildings. **MNyamiram**

**Figure 11: Median number of tenants per building**



#### 3.2.2 Occupancy rates by commercial centre

Average occupancy rates are 85%. The highest occupancy rate by commercial centre is Remera at 93.1% followed by Nyabugogo at 89.5%. On the other hand, Gisozi and Kicukiro have the lowest average occupancy rates at 77.6% and 75.8% respectively.

**Table 4: Occupancy rates by commercial centre**

Commercial centre	Number of buildings	Mean
Nyarugenge (CBD)	89	82.1
Nyabugogo	79	89.5
Kimironko	97	86.3

Remera	83	93.1
Nyamirambo	30	86.4
Gisozi	16	77.6
Kimihurura	13	84.6
Kacyiru	25	89.3
Kicukiro	22	75.8
<b>City of Kigali average Occupancy rate</b>	<b>454</b>	<b>85</b>

Table 5 below indicates that Gisozi at 25.0% of a total of 16 buildings sampled, Kicukiro at 22.7% of a total of 22 buildings sampled and Nyarugenge at 15.7% of a total of 89 buildings sampled, have the highest number of buildings occupied at a rate of less than 50%. The Nyarugenge figure is most notable because this has a larger sample size and represents 14 under-occupied buildings. The least under-occupied areas are Remera – with just 4 out of 83 buildings under-occupied, and Nyamirambo with just 2 of 30 buildings under-occupied.

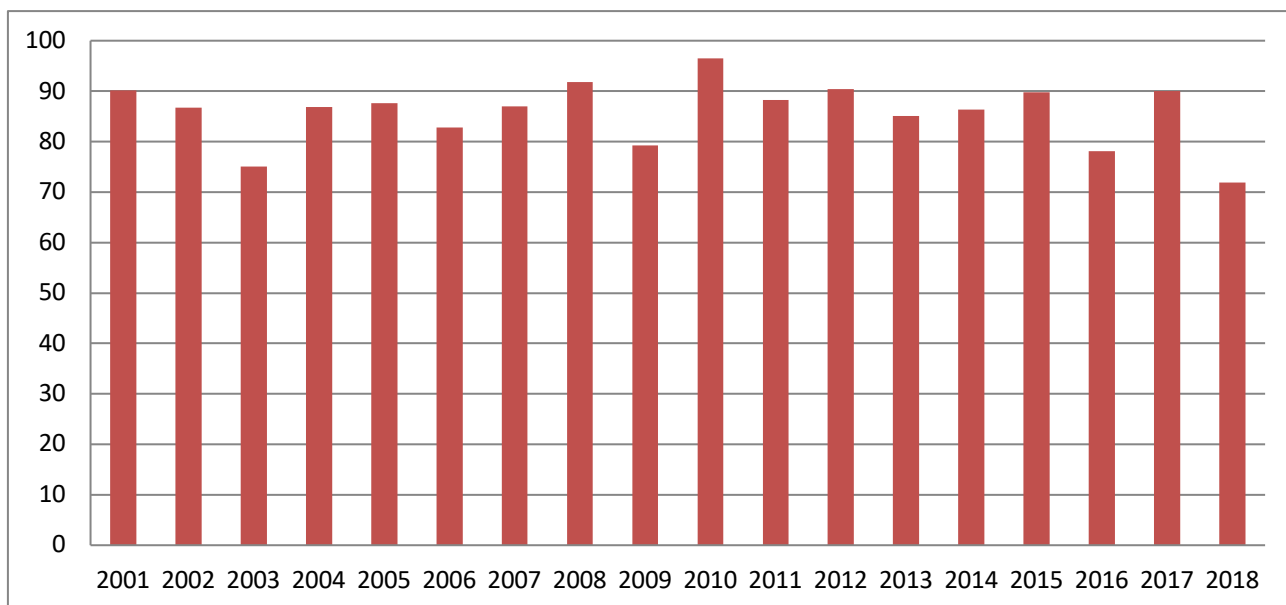
**Table 5: Proportion of commercial buildings with occupancy rates below 50% by commercial centre**

Commercial centre	Buildings occupied below 50%	Total number of buildings in sample	Percent of buildings occupied below 50%
Nyarugenge CBD	14	89	15.7%
Nyabugogo	9	79	11.4%
Kimironko	11	97	11.3%
Remera	4	83	4.8%
Nyamirambo	2	30	6.7%
Gisozi	4	16	25.0%
Kimihurura	2	13	15.4%
Kacyiru	3	25	12.0%
Kicukiro	5	22	22.7%

### 3.2.3 Occupancy rates by the year buildings were opened

Figure 12 shows occupancy rates as a percentage, against the year that buildings were opened for business. These fluctuate evenly but show a slight downward trend in the past five to eight years compared to the prior period, which needs to be considered carefully as this corresponds to the period when implementation of the 2012 master plan was in force. Qualitative information from commercial real estate developers indicates that zoning regulations have sometimes spurred prime land owners into borrowing money, at the prevailing high interest rates, in order to construct buildings of the height standards that are required or perceived to be required within the city. High interest rates charged by commercial banks for recently constructed commercial buildings then compel commercial real estate owners into raising rents in order to pay back bank loans. In addition, most of the businesses in Kigali are small or medium enterprises and cannot afford prime building rents. One interesting result of this is that shared working spaces or shared office systems have emerged in the past few years.

Figure 12: Current occupancy rates (%) by year the building was opened for business



### 3.2.4 Occupancy rate by market segment

Table 6 indicates that in our sample most of the commercial buildings are located in the suburban area; commercial buildings are spread across the city and there are a number of sub-centres.

Occupancy rates are lowest in the CBD at 82%, followed by down town areas at 86%, and are highest in the city suburbs at 88%.

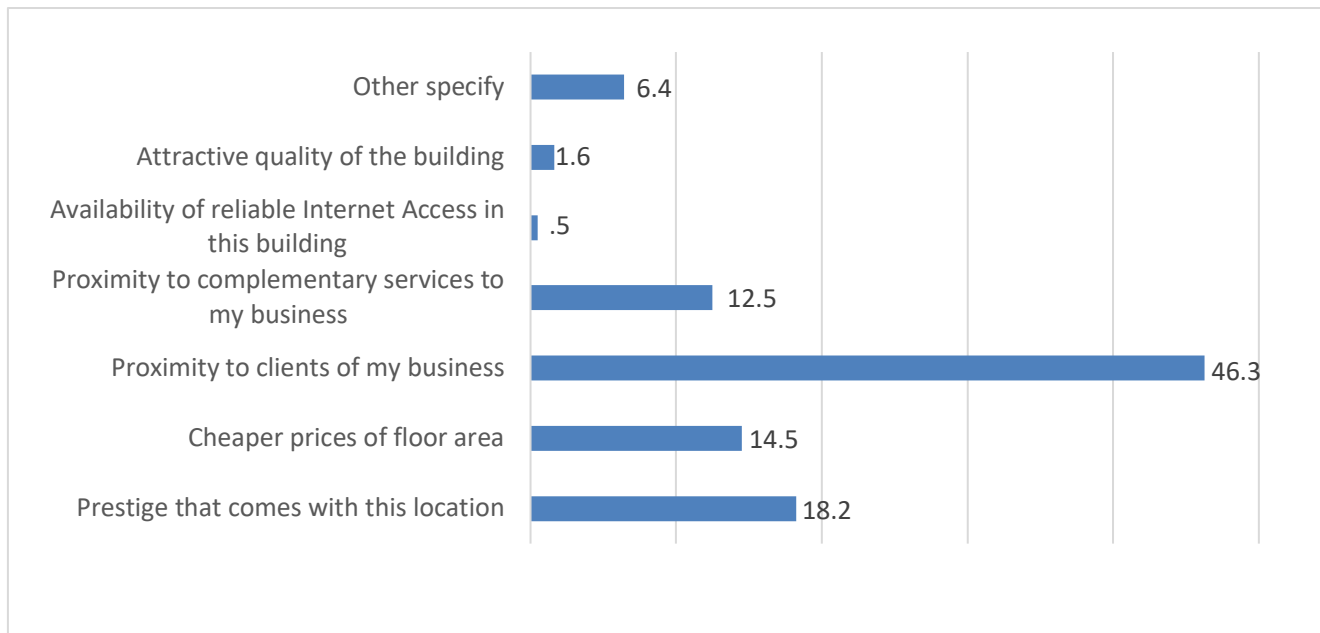
**Table 6: Occupancy rate by Metropolitan Statistical Area**

Building location		N	Mean	Std. Deviation
Central business district	Occupancy rate	80	82	24
City suburb	Occupancy rate	314	88	24
Down town	Occupancy rate	60	86	30

**3.2.5 Reasons for renting buildings**

Figure 13 illustrates the reasons that tenants rent commercial buildings in the locations they do. Our findings show that the proximity to clients at 46.3% is by far the most important reason for renting at a specific location – which underlines the importance of the agglomeration effects of proximity. This is followed by location prestige at 18.2%. Surprisingly, cheap cost of renting ranked third and was a concern for just 14.5% of tenants. The availability of reliable internet ranked last with 0.5% so is clearly not a major concern.

**Figure 13: Reasons for renting buildings**

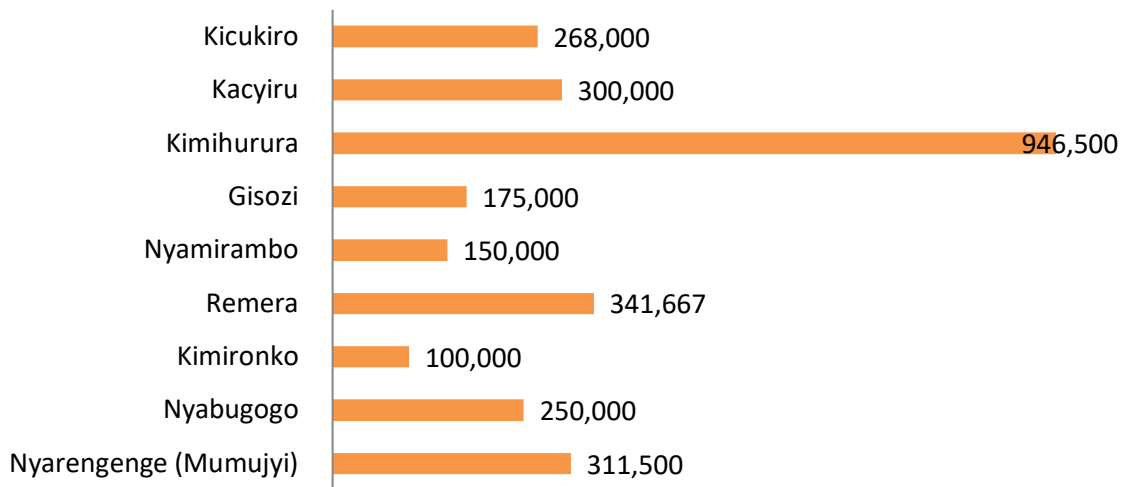




### 3.2.6 Median monthly rent per unit by commercial centre

Given that average rents are usually skewed upwards by the maximum rents in a given commercial centre, we use median rents as a more representative statistic on the cost of renting commercial space. We find that the suburbs of Kimironko, Nyamirambo and Gisozi have the lowest median rents for commercial space per unit per month at 100,000 RWF, 150,000 RWF, 175,000 RWF and 250,000 RWF respectively. The most expensive places to rent are Kimihurura, Remera and Nyarugenge (CBD) with a median rent per unit per month of 946,500 RWF, 341,667 RWF and 311,500 RWF respectively.

Figure 14: Median rent per unit in RWF by commercial centre

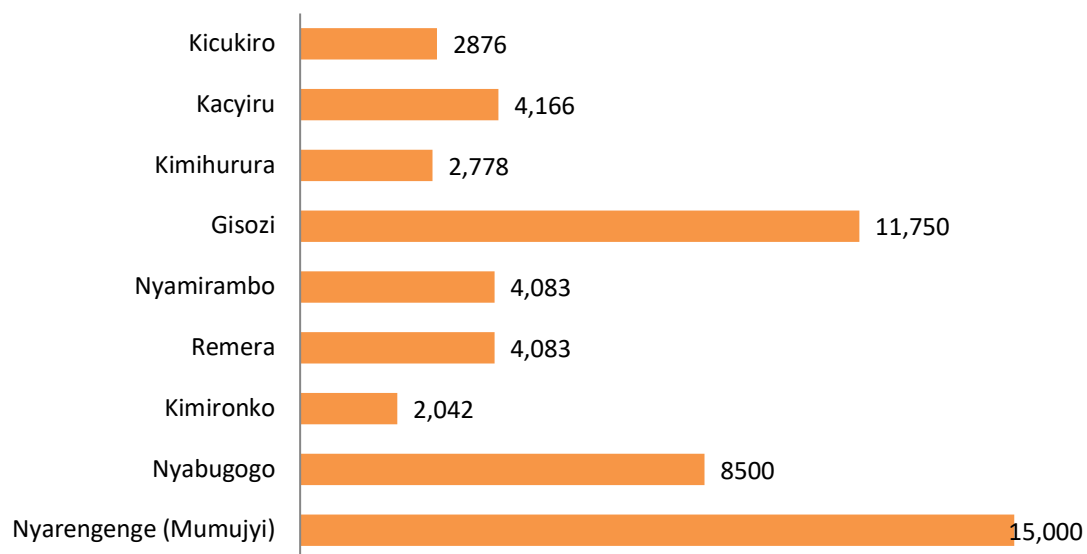


### 3.2.7 Median monthly rent per square metre by commercial centre

When compared to other commercial centres, Nyarugenge CBD, Gisozi and Nyabugogo have the highest median monthly rents per square meter at 15,000 RWF, 11,750 RWF and 8,500 RWF respectively. Nyarugenge has the highest cost per square metre but the third highest cost per unit, implying smaller units than in Kimihurura and Remera. The higher cost may be driven by high costs being passed on to customers, namely high land prices in prime commercial areas, and possibly the cost of building up in height – which in turn may be driven in part by enforcement of building regulations these areas. Medium-level commercial centres in terms of cost per square metre include Remera, Nyamirambo and Kacyiru whose median ranges between 4,000 to 4,200 RWF per square metre. The cheapest commercial centres are Kimironko, Kicukiro and Kimihurura which cost 2,000-3,000 RWF per square metre. The usual caveats about sample size apply. Lower cost of rent may be due to these areas being mainly residential. In addition, some residential houses in some suburbs have been converted into commercial units which are rented out at cheaper prices when compared

to other commercial buildings in places such as the Central Business District in Nyarugenge. Although, government policy has been to discourage businesses renting premises within residential houses, the practice still continues and may be driven by cost.

**Figure 15: Median monthly rent per square metre by commercial centre**



### 3.2.8 Items and services included in rent

Table 7 shows the items or services included in rent and the number of buildings in each category. Over three quarters of commercial building owners provide the floor space only, while some include electricity and water (11.8%); less than 5% go on to also include furnishing and municipal fees.

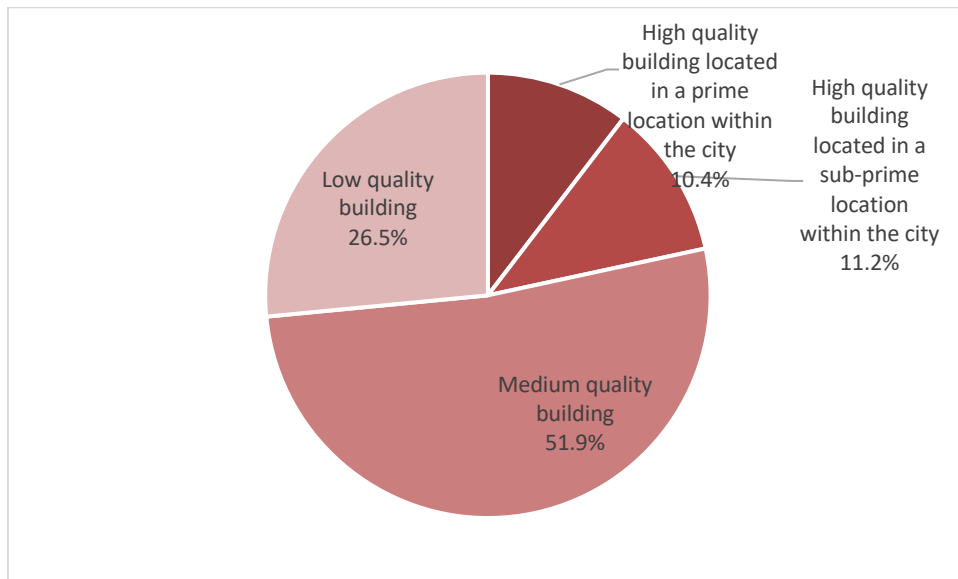
**Table 7: Number of commercial buildings that include certain items and services**

Included as part of the rent	Number of building	Percent
Rent for floor space only	348	76.3
Rent for floor space plus electricity and water	54	11.8
Rent for floor space, electricity, water and furnishing	21	4.6
Rent for floor space, electricity, water, furnishing plus municipal fees( such as security and cleaning services)	22	4.8
Other (specify)	11	2.4
<b>Total</b>	<b>456</b>	<b>100</b>

### 3.2.9 Tenants' perceptions of the quality of commercial buildings

Figure 16 shows that 51.8% of tenants regard their buildings as medium quality; 10.4% of tenants in the sample regard their buildings as high quality and located in a prime location; 11.2% are regarded as high quality buildings located in sub-prime locations within Kigali city. The remaining 391 tenants, representing 26.5%, regard their building as low quality. Tenants also observed that many buildings do not contain disabled access such as elevators and ramps.

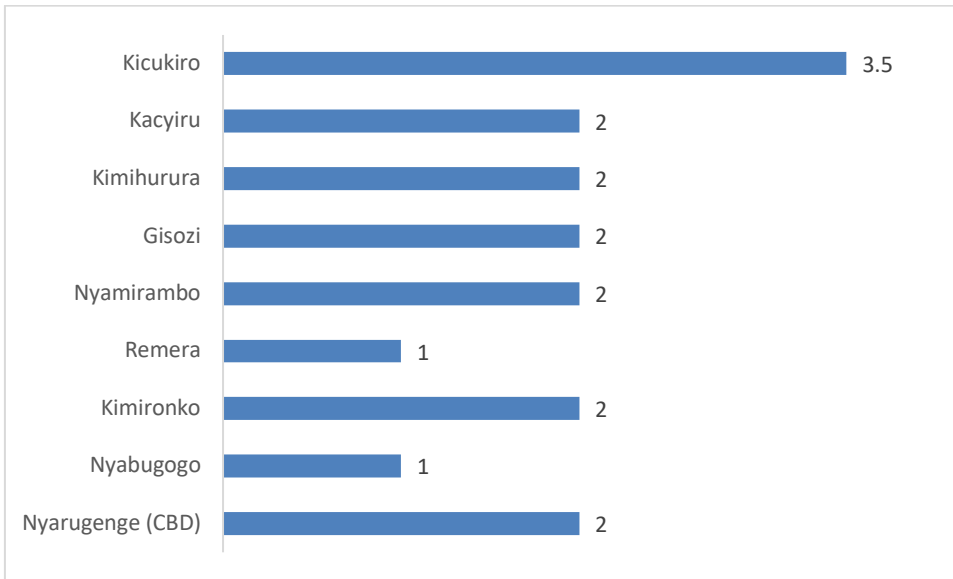
Figure 16: Quality of sampled commercial building



### 3.2.10 Average vacancy period before a new tenant moves in by commercial centre

According to Figure 17 it takes a median of 2 months before a new tenant moves into vacant space in commercial buildings located at Kigali; the longest vacancy period is 3.5 months in Kicukiro and the shortest is 1 month in Remera and Nyabugogo. For the rest of the commercial nodes, including the CBD, the median vacancy period is 2 months. A very few buildings have much longer vacancy periods above six months, but these account for less than a tenth of the sample.

**Figure 17: Median vacancy period before a new tenant moves in (months) by commercial node**



### 3.2.11 Tenant preferences for floor locations

Table 8 tabulates the number of floors on which business activity of tenants is located, against the number of buildings in each category. Most buildings have just one floor (the ground floor)<sup>2</sup> (58.6%). Proximity to clients may be the major reason for this and many businesses target clients who are moving along the street. Five point three percent of commercial buildings have two floors, very few have three or four floors, but interestingly, 34.6% of buildings have other numbers of floors.

Unsurprisingly, rent prices increased with the increase in numbers of the units occupied by the tenant. Those that occupied more rooms paid more money. For buildings with more than one floor, tenants on the upper floors paid relatively less money compared to their counterparts on the ground floors.

<sup>2</sup> We interpret “first floor” in the American English sense of being the floor that is level with the ground, not the British English sense of being the floor above the ground floor

**Table 8: Number of floors containing main business service**

<b>Location of businesses</b>	<b>Number of buildings where tenants occupy this floor</b>	<b>Percentage</b>
Groundfloor	267	58.6
1st floor	24	5.3
2nd floor	5	1.1
3rd floor	2	0.4
Other (specify)	158	34.6
<b>Total</b>	<b>456</b>	<b>100</b>

## **4. Findings on drivers of occupancy rates and rents**

### **4.1 Drivers of occupancy rates**

In this section we attempt to find some key determinants of occupancy rates of commercial buildings in Kigali using a multiple linear regression model and cross-checked with a fractional logistic regression model because the dependent variable is not normally distributed. The dependent variable we use is the occupancy rate, which is simply the ratio of rented space to total available space on a commercial building; a fully occupied building takes a value of 1 and a building occupied at the 60% level would take a value of 0.6, for example. Given that many of the independent variables are categorical in nature, we generate dummy variables and add the dummy variables into the model. This implies that our findings on the dummies are relative to the base categories for each of the independent variables which are left out of the model.

Regression results are shown in Table 9 below; the model we estimated is given in Appendix 1. The variables shown here are the ones that added predictive power to the model after a great deal of experimentation. Given that the dependent variable, occupancy rates, is a fraction between one and zero, and can be equal to one or zero, leading to heteroscedasticity of the dependent variable compared to its estimated values in this model, we cross checked our results with a fractional logistic regression which is designed for this type of dependent variable.

**Table 9: OLS regression results: determinants of occupancy rate**

Variables	Coefficients	P-values
Occupancy rate (dependent variable) as a percentage		
<b>Zoning_R1</b>	<b>0.129</b>	<b>0.004***</b>
<b>Zoning_R3</b>	<b>-0.120</b>	<b>0.000***</b>
<b>All bills included in rent</b>	<b>-0.267</b>	<b>0.000***</b>
<b>Other additional bills included in rent</b>	<b>-0.268</b>	<b>0.000***</b>
<b>Remera</b>	<b>0.093</b>	<b>0.002***</b>
<b>Nyabugogo</b>	<b>0.126</b>	<b>0.006***</b>
<b>Kicukiro</b>	<b>-0.114</b>	<b>0.027**</b>
Private equity-funded construction	0.038	0.087*
<b>Downtown location</b>	<b>-0.116</b>	<b>0.020**</b>
<b>New building in 2015</b>	<b>-0.082</b>	<b>0.006***</b>
Building is used as an office	-0.043	0.125
_cons	0.880	0.000
R-squared	0.181	
Adjusted R-squared	0.161	
F (12, 441)	8.89	
Number of observations	454 buildings	

\* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level

**Table 10: Fractional logistic regression results for the same set of variables as Table 20**

Variables	Coefficients	P-values
Occupancy rate (dependent variable) as a percentage		
<b>Zoning_R1</b>	<b>15.865</b>	<b>0.000***</b>
<b>Zoning_R3</b>	<b>-0.934</b>	<b>0.000***</b>
<b>All bills included in rent</b>	<b>-1.698</b>	<b>0.000***</b>
<b>Other additional bills included in rent</b>	<b>-1.791</b>	<b>0.000***</b>
<b>Remera</b>	<b>0.982</b>	<b>0.003***</b>
<b>Nyabugogo</b>	<b>1.441</b>	<b>0.000***</b>
<b>Kicukiro</b>	<b>-0.833</b>	<b>0.033**</b>
Private equity-funded construction	0.348	0.095*
<b>Downtown location</b>	<b>-1.350</b>	<b>0.000***</b>
<b>New building in 2015</b>	<b>-0.702</b>	<b>0.008***</b>
Building is used as an office	-0.389	0.102
_cons	2.090	
Pseudo R-squared	0.123	
Wald chi-squared (12)	4700.51	
Number of observations	454 buildings	

\* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level

These results must be taken with the caveat that the sample of commercial real estate buildings was not systematically random, and thus the beta coefficients may be biased, but they are indicative of the wide variety of factors that drive occupancy rates. The overall predictive power of the OLS model is respectable but not impressive, with an adjusted R squared of 0.161 leaving 84% of variation in occupancy rates unexplained; however, a number of interesting variables turn out to have statistical significance. Our cross-check of results in the fractional logistic regression model found that the model was slightly less predictive with a pseudo-R-squared of 0.123, but in this model the same variables were significant and had the same sign, although had different magnitudes. We do not, therefore, discuss the specific magnitudes of effects of variables on occupancy, only their significance relative to each other.

Our findings show that zoning regulations matter; relative to commercial buildings located in industrial zones, commercial buildings located in the R1 zone which has less stringent regulations in terms of number of floors have significantly higher occupancy rates. This may also be because residential buildings are smaller and thus less easily subdivided – thus occupancy may be one if the building has a business in it, and zero otherwise. In one sense this is concerning because in the 2013 Master Plan commercial firms were not supposed to be located in residential areas; but it also validates the idea of mixed-use neighbourhoods and allowing some level of appropriate commerce to continue in residential areas. However, commercial buildings located in the R3 zones which have had more demanding building regulations, have significantly lower occupancy rates. This validates the idea of flexibility in the zoning regulations to allow for incremental construction in some R3 zones where applicable.

Although in our field work we saw a number of new tall buildings which lie empty, in the process of selecting variables for the model shown, we found the number of floors (Question 27 in the survey) to be a statistically insignificant predictor of occupancy rates – thus this variable is not included. From our focus group discussions with tenants, we found that tenants tended to prefer ground floors – but this preference may not directly translate into lower occupancy on higher floors. We do, however,

find that buildings opened for business after 2015 have slightly lower occupancy rates, a finding that is statistically significant.

We also find that the more bills are embedded within the rent package, the lower the occupancy rates of commercial buildings within our sample. Commercial buildings whose rent includes more components such as floor space, water, electricity, furnishings and municipal bills significantly have lower occupancy rates than building with fewer components such as floor space only, or floor space plus utilities. This may be due to the fact that commercial tenants prefer paying for the floor space, a fixed cost to the landlord, while privately paying the variable costs which they can manage individually. It may also be because rents look lower where they do not include utilities, and thus may be more attractive to tenants even though the tenants will have to pay the utilities themselves. This implies that to increase occupancy rates in their buildings, commercial real estate developers and owners are better off charging the fixed cost of floor space and leaving the variable costs of utilities such as water, electricity and municipal fees to the clients.

In terms of location, commercial buildings located in the city suburbs of Nyabugogo and Remera have higher occupancy rates than the other commercial nodes in our sample significant at the 1% level; Kicukiro has slightly lower occupancy rates significant at the 5% level. The reason for this is unclear but correlates with findings on lower median rents for commercial buildings in the city suburbs. A location classed as “downtown” has significantly lower occupancy than suburbs and the CBD. Usage as an office also has a downward effect on occupancy rates but this is not significant.

In terms of the sources of funds used in the construction, buildings which are constructed using developers own funds(equity) have slightly higher occupancy rates when compared to buildings constructed using bank loans – but this is not statistically significant. This may allude to the high costs of obtaining and repaying mortgage finances (in terms of interest rates and repayment periods) which put upward pressure on rents and subsequently, occupancy rates.

## **4.2 Drivers of rents**

We also employed the multiple linear regression model to investigate the key determinants of rent for commercial buildings in Kigali City. Monthly rent is not normally distributed so we use a Poisson regression in which we take the log of monthly rent; the log of monthly rent is normally distributed



so there is no need to cross-check with another type of regression. We chose the variables to optimise adjusted R-squared. The results, after a great deal of experimentation to maximize Adjusted R-squared, which is 0.315, are summarized in Table 11 below. As for the results for occupancy rates, the results in this section must be taken with the caveat that the sample of commercial real estate buildings was not systematically random, and thus the beta coefficients may be biased, but they are indicative of the wide variety of factors that drive rents. The model we estimated is given in Appendix 1.

**Table 11: Regression results: determinants of commercial real estate rents in Kigali**

Variables	Coefficients	P-values
Log_rent(Dependent variable)		
<b>Nyarugenge_CBD</b>	<b>-0.657</b>	<b>0.022**</b>
<b>Nyabugogo</b>	<b>-0.763</b>	<b>0.001***</b>
<b>Kimironko</b>	<b>-0.999</b>	<b>0.000***</b>
<b>Nyamirambo</b>	<b>-0.725</b>	<b>0.002***</b>
Gisozi	-0.552	0.070*
Zoning_R2	0.343	0.228
<b>Commercial zoning</b>	<b>0.667</b>	<b>0.000***</b>
<b>City_surburb</b>	<b>-0.658</b>	<b>0.003***</b>
<b>Total space in the building for renting out</b>	<b>0.000</b>	<b>0.043**</b>
<b>Number of floors in commercial building</b>	<b>0.109</b>	<b>0.005***</b>
Average square metres per unit	0.000	0.671
Private_equity_funds	-0.407	0.052*
<b>Single_commercial bank_funds</b>	<b>-0.543</b>	<b>0.014**</b>
Building is used for offices	0.213	0.215
<b>Building is used for retail and wholesale</b>	<b>-0.351</b>	<b>0.013**</b>
<b>Loan is partly recovered</b>	<b>0.311</b>	<b>0.023**</b>
<b>Latitude of building</b>	<b>0.571</b>	<b>0.036**</b>
Longitude of building	0.031	0.113
<b>Number of commercial units available for renting</b>	<b>-0.002</b>	<b>0.038**</b>
_cons	13.151	0
R-squared	0.355	
Adjusted R-squared	0.315	
F (19, 304)	8.82	
Number of observations	324	

\* significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level

The adjusted R squared is 0.315 leaving 68% of the variation in log rent per unit unexplained. Rents per unit are slightly lower in Nyabugogo, Kimironko, Nyamirambo, Gisozi, and surprisingly, Nyarugenge (CBD)<sup>3</sup>. However, the surprising result for the CBD comes after controlling for building size, number of floors, and average square metres per unit – which may eliminate some of the characteristics that make property in the CBD different; the raw correlation between CBD and log rent is in fact positive. Location in the city suburb – as opposed to downtown or in the CBD, unsurprisingly, means lower rent. Finally on location, use of latitude and longitude as covariates reduces the number of available observations but improves adjusted R-squared.

Interestingly, a larger building with more space (significant at 5%), more floors (significant at 1%) and higher average unit size (not significant), has higher rents per unit; however, controlling for these factors, an increasing number of units per building brings rent cost per unit down but by a small magnitude. The strongest finding here in terms of magnitude and statistical significance is that taller buildings tend to have higher rent per unit.

Zoning regulations matter for the cost of rent - commercial buildings located in areas zoned as commercial in the 2013 Master Plan, have significantly *higher* rents compared to other zoning – and in this data the other zoning is largely residential. The reason for this is unclear – either commercial property is more expensive to build, tougher regulations with respect to the required number of floors has increased the average cost, or high demand for commercial-zoned property has pushed prices up. This finding further supports the case for flexibility during both zoning itself and implementation of zoning regulations, and also supports the case for incremental construction and working commercial real estate financial markets so that supply is sufficiently responsive to demand.

The source of finance matters – use of private equity and of single bank loans, interestingly, are both correlated with lower rent costs. However, if the loan has been partially repaid, this increases the cost of rent relative to other categories (including fully repaid at 55% and not recovered at 10.5%). This

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<sup>3</sup> significant at the 1% level except at 5% for CBD and 10% for Gisozi

implies that the pressure on commercial rents is higher when funds are borrowed to construct commercial buildings.

Lastly, the use to which commercial buildings are put matters: relative to other uses, buildings rented out for retail and wholesale purposes have significantly lower rents.

## **5. Findings from key informant interviews with developers**

IPAR conducted key informant interviews with commercial real estate developers; this category covers a wide range of services which are broadly categorised into two categories of commercial developers, the construction implementers, and the land managers/lessors. Issues faced by developers include the following:

- District authorities take 2-3 months to process and approve construction permits compared to a more acceptable 21 days at the City of Kigali Province level (as of 2018).
- There is a lack of compensation in cases of expropriation when new or widened roads encroach on plots, and also cause delays to the issuing of construction permits to plots that are adjacent to roads set to be widened.
- The process for the submission of papers requesting construction permits is (as of 2018) perceived as long and expensive, requiring the commercial developer to hire scarce skilled staff to prepare the materials for the permit, and to submit a design which can be rejected requiring further expense for amendment purposes.
- City authorities are lenient with the developers in relation the city regulated parking space requirement in the Master plan; in reality most buildings don't have enough parking space – for example one parking space per 2 houses for apartments.
- Land prices are perceived to fluctuate, and are not predictable or in any way “standard”. Land owners sometimes set increased prices for developers that predict value gains on the land in future, given the location. If Master Plan zoning for that land changes, developers who then buy that land can then lose money because they are unable to develop the land as previously planned.
- Lack of provision of infrastructure such as roads, water pipes and cables, as well as other social amenities, in some areas of Kigali, limit the development of commercial real estate

- Interest loans from banks are high and decrease returns on commercial real estate investment, and there seem to be limits on the size of loans that banks will risk lending to developers.
- Developers have perceived a disparity between high density areas such as Masaka, Ndela, or Budashya, yet in the 2013 Master Plan requires commercial developers to construct big residential houses which are not compatible with land sizes.
- In key informant interviews, various respondents complained that taxes on businesses reduced purchasing power of tenants, and profitability and growth of the overall commercial real estate sector.

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## Annex 1

The models estimated in section 4 are as follows.

### Occupancy rates

We estimated OLS and fractional logistic regression to estimate the following model.

$$\text{Occupancy rate (percentage)} = \beta_0 + \beta_1 \text{Zoning\_R1} + \beta_2 \text{Zoning\_R3} + \beta_3 \text{All\_bills\_included\_in\_rent} + \beta_4 \text{Other\_bills\_included\_in\_rent} + \beta_4 \text{Remera} + \beta_5 \text{Nyabugogo} + \beta_6 \text{Kicukiro} + \beta_7 \text{Private\_equity\_funded} + \beta_8 \text{Downtown\_location} + \beta_9 \text{New\_building\_in\_2015} + \beta_{10} \text{Building\_used\_as\_offices} + \varepsilon$$

Almost all of the independent variables on the right hand side are simple dummies.

### Rent per unit

We estimated the following OLS regression model

$$\text{Ln\_average\_rent\_per\_unit} = \beta_0 + \beta_1 \text{Nyarugenge} + \beta_2 \text{Nyabugogo} + \beta_3 \text{Kimironko} + \beta_4 \text{Nyamirambo} + \beta_4 \text{Gisozi} + \beta_5 \text{Zoning\_R2} + \beta_6 \text{Commercial\_zoning} + \beta_7 \text{City\_suburb} + \beta_8 \text{Total\_space\_in\_building} + \beta_9 \text{Number\_of\_floors} + \beta_{10} \text{Average\_square\_metres\_per\_unit} + \beta_{11} \text{Private\_equity\_funded} + \beta_{12} \text{Single\_bank\_funds} + \beta_{13} \text{Building\_used\_as\_offices} + \beta_{14} \text{Building\_used\_as\_wholesaleretail} + \beta_{15} \text{Loan\_partly\_recovered} + \beta_{16} \text{Latitude} + \beta_{17} \text{Longitude} + \beta_{18} \text{Number\_of\_units\_available\_in\_building} + \varepsilon$$

Most of the independent variables on the right hand side are simple dummies, except total space in building which is given in metres squared, number of floors in the building, average square metres per unit which is given in metres squared, latitude and longitude which are geographic coordinates, and number of units available for rent in the building – whether used or unused at the time of the survey.

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