Multifamily properties for rent in Colombia: An opportunity waiting to be seized at The Massachusetts Institute of Technology

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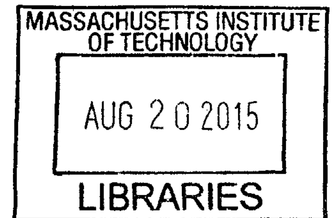

by

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Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in Partial Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development

at the

Massachusetts Institute of Technology

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ABSTRACT

This paper seeks to reveal an overlooked opportunity to develop and invest in multifamily properties for rent in Colombia by examining all of the variables that make up a suitable investment. With more sophisticated investors entering the market, sky-high housing prices, desirable demographic trends for a growing economy and the highest share of renters in a Latin American city, Bogotá has the perfect mix for developing an institutionally-owned and managed rental housing market. It is addressed to developers, property managers and investors who can seize this opportunity in years to come. Also, is meant to provide a holistic research that summarizes the present situation and provides clear guidelines for future ventures.

There are clearly some challenges that this new market will face. Low rental yields, an insufficient legal and regulatory framework, and a lack of specialized funding vehicles are three of the main obstacles that these developments will encounter. From a competitive perspective, it is clear that a fragmented though efficient rental market exists. Even though it operates largely in an informal manner, this supply of units satisfies the needs of todays' rental community. These obstacles, among others, will be analyzed in this thesis to show that the existing risks can be managed and mitigated and it is indeed the right moment to develop new investment platforms.

The research will contemplate the whole Colombian rental market but will focus on Bogotá's mid and high-end spectrum of the housing market. While affordable-housing projects for rent can also be identified as a substantial opportunity, the fact that most likely the regulatory framework around the subject will soon change, exposes any recommendation to becoming irrelevant.

In order to further develop the institutional real estate in Colombia, the country will not only need more sales and steady price increases. A central piece for becoming a sophisticated and modern market will come from a change of approach towards the process of conceiving, analyzing and investing in real estate. Even though this will take decades, the objective of this paper is to emphasize that for the rental housing market this evolution should start now.

Thesis Supervisor: Albert Saiz
Title: Chair, MSRED Committee, Interdepartmental Degree Program in Real Estate Development

Gracias a mi madre, Alba. Every single success that I have achieved and will accomplish in life is meant to honor my mother's unconditional love, strength and efforts.

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1. INTRODUCTION

Colombia has a significant number of households that are well served by rental housing. This almost 5 million families live in units owned by "mom and pop" investors which are spread out through all apartment buildings in the country. Typically, between 15% and 30% of the dwellings are owned by this unsophisticated type of investors who rent them out to have an additional source of income. With a couple of exceptions for student housing in Bogotá, no development has been promoted as a for-rent apartment project in the past. The contradiction between this reality and the fact that rental-housing development is common in mature real estate markets is what inspired this thesis. With a well-rounded research around this topic, the objective is to raise interest among funds, developers, government agencies and other potential market players in the country and abroad.

As you read through this document you should be able to answer the following question:

> *Is there an arbitrage opportunity in creating the first platforms for development and investment in residential properties for rent in Colombia?*

Hopefully, your answer will be *yes*.

Developers, funds, lenders and other industry members are interested in exploring this "new" asset class. However, they recognize the real challenges faced by rental housing as a major source of risk. This document will not disregard these doubts, but will show that potential rewards are bigger than the risks. The thesis focuses on an investment opportunity and its objective is to understand the different criteria that a developer or investor would seek in a potential venture. As you dive in, you will discover that: i.) Rental housing has an enormous market potential in Colombia, especially Bogotá, ii.) It is one of the safest investments for institutions that are undermining this opportunity, iii.) Even though being deficient, the legal and regulatory framework are enough for laying the ground on the first projects and iv.) New developments are financially attractive. In order to do this, the paper will answer the following questions in each of the chapters:

1 **SPACE MARKET:** Is there current and future demand for rental housing? Is there

enough supply? What is the competitive environment with the actual "informal" supply of rental units? Is it an efficient market? How will population growth, demographics and rising house prices impact the rental housing market? What are the average rents per square meter in typical units? What are the average lease lengths and natural vacancy rate? What are the differences between segments of the population and among most important metro areas?

2. **ASSET MARKET:** What does the actual real estate capital stack in Colombia looks like? Is rental housing riskier or safer than other real estate investments? Why? What is the relationship between rent and housing prices in Colombia? Is there available debt financing for these types of project? What conditions can you expect from the lenders? What are the expected cap rates for institutional investors?

3. **LEGAL AND REGULATORY FRAMEWORK:** What are the rights and obligations of a landlord and a tenant in the country? What can you expect in the near future? How does the rent control work? What is the process for repossessing a housing unit from a tenant who defaults? How long does it take? How can you mitigate the risks associated with an insufficient legal and regulatory framework?

4. **FINANCIAL ANALYSIS:** Is it financially feasible to develop? What are the expected returns? Does it make sense to lease and not sale newly-developed properties at current housing prices?

The findings from each of these items will be analyzed individually to conclude if it is in fact time to start developing this type of properties. Each one of the outcomes should be benchmarked to the standard of measure or targets that applies. For the space and asset market, common indicators like cap rates, rents per square meter, percentage of price increases, vacancy rate, interest rates, month supply will be used. For the financial analysis, the results will be illustrated with typical market standard measures like levered and unlevered IRR, yields, equity multiplier, and others.

It was not an easy task to collect the appropriate literature needed to answer the previous questions. Colombia, as most emerging economies, suffers from lack of information and reports. The available data sets for a project like this one are scarce and have to be carefully checked for errors and processed before incorporating them into the analysis. Thankfully, I

had the fortune to rely on several persons and companies that made it possible for me to gather a substantial set of research briefs, polls, studies and interviews in a short period of time. I want to thank all of them and especially Álvaro and Luis Guillermo Vélez from Tríada, Jorge E. Torres from CENAC, Edwin Chiriví, Santiago Higuera and the rest of team members of CAMACOL's economics research team and Alberto Isaza from Galería Inmobiliaria.

INVESTING IN COLOMBIA. IS IT A GOOD IDEA?

It has been the mindset of many within the private equity real estate industry to equate Latin America to one country, namely Brazil. But as investments in the region grew, that standpoint seems to have evolved. Countries like México, Colombia and Peru are now in the radar of international real estate investors. The rest of the countries in Latin America are either not large enough markets or submerged into unstable political and economic environments. On the other hand, Mexico, Colombia and Peru together, account for the same population as Brazil, 200 million. These three countries have enjoyed, in the past decade, a more stable economic growth sponsored by pro-business governments that have fostered the real estate industry and the capital markets in general.

Colombia is a country of 48 million people, the third largest in Latin America, surpassed only by Mexico and Brazil. There are 13.6 million households according to the last official census taken in 2014 by the National Administrative Department of Statistics (DANE, for its Spanish acronym). Last year's gross domestic product was $378 billion. Bogotá, the capital, and its metropolitan area, are home to 7.8 million people and conform the largest city and economic center of the country. Colombia's average rate of economic growth for the past ten years (2005 to 2014) has been of 4.76%, the strongest between the four largest countries by GDP in the region (Brazil, Mexico, Argentina and Colombia). But most importantly, the country's growth rate experienced the least volatility of the top ten Latin American countries during the past decade. This shows that the relatively sound and stable economy managed in a conservative manner (something that the country has always been recognized for) has paid off.

The housing sector has recently been booming in the country, with price growth averaging

10.6% during the last ten years[1]. Bogotá, Medellin, Cali and Barranquilla, the largest four cities, have experienced the boom of Colombia's economic growth and successful housing policies. Bogotá, with the largest residential market, has been the most favored city in this thriving economy. In the current year the capital city accounts for 43% of new residential developments in the country. And although the last 18 months have shown a slowdown in the housing sector, the future looks very promising. In year 2005, 36% of households, 3.8 million homes, had either quantitative or qualitative deficits[2]. According to Pizano de Narvaez (2006), an additional deficit of about 120,000 homes is generated annually in the country. If the economy continues to flourish and the country remains in this growth spiral, the residential market will continue to grow and there will continue to be considerable opportunities to close the housing shortage along the road.

HOUSING POLICY AND DEFICIT IN COLOMBIA

Housing policy in the country has historically been skewed to favor homeownership. The explicit goal of government officials has been to make Colombia "a country of homeowners". Although during the last decades different strategies have been implemented, the means have always been in service to the same end.

Prior to 1991, Colombia had a long history of directly providing social-interest housing and it did so for over 50 years. All of the housing stock produced in this period of time was entirely designated for ownership tenure, and not rental, and accounted for between 15% and 20% of all home construction. In 1972, the UPAC system was introduced. UPAC—the Spanish acronym for the Constant Purchasing Power Unit (*Unidad de Poder Adquisitivo Constante*)—was a system by which savings deposited in banks and debt issued through the financial system were tied to the inflation index. This encouraged savings by individuals who planed on buying a home and expanded the mortgage market considerably for the first time. It also privatized banking and lending.

By 1991, with the adoption of more liberal policies and counter-inflationary measures the government production of public housing ceased completely. Around the same time,

[1] DANE – Índice de Precios de Vivienda Nueva (new-homes index developed by DANE)
[2] DANE – Censo general (census) 2005

reforms in the banking system changed it from a model of 'specialized banking' to one of a general 'multibank', where any single bank entity could be involved in all sorts of banking activities. This brought stronger competition in the mortgage debt market, which continued its growth. Also in the 90s', another incentive for home ownership was created by the government, the Family Housing Subsidy (SFV, for its Spanish acronym). These subsidies, which have been working since then as a cornerstone of current housing policy, are meant to identify the families that are truly in need and to help them access market-rate housing.

After a boom cycle created by the liberalization of the banking sector – the expansion of mortgage lending - and an under-supplied market, housing prices skyrocketed. As a result, the worst housing crisis in Colombia exploded around 1998-2002. At the end of the bust, the UPAC system was dismantled and its successor was the '*Unidad de Valor Real*' (UVR). This system, which that still works today, has not been successful mainly because potential borrowers are still hesitant to apply for mortgages indexed to the UVR under fear of the volatility that crashed the UPAC system back in the end of the 20th century.

In these last 15 years, government's policies and reforms have focused mostly on better tailoring the demand-side subsidies for social housing. Also, a set of incentives to the supply-side was created. These incentives work through tax exemptions for developers and by facilitating the process of land banking for large-scale projects. In the last six years, current president Juan Manuel Santos has intensified the "housing engine" by investing in this industry far more than previous governments. Additional programs created by this administration include free housing for families that have a total income below the minimum wage, and mortgage interest rates subsidies that serve social housing as well as houses that sell to the mid-income segment. Furthermore, the current administration has made an effort to address the housing deficit in secondary and tertiary cities by adapting such programs in ways that reach them.

Despite the many efforts made to provide decent housing to all Colombians, the country still faces a significant housing deficit, as most Latin Americans countries do. The following facts condense the housing shortage that Colombia suffers:

- The last official census taken in 2005 showed that 36.2% of households were qualified as having a housing deficit (DANE 2005). 97% of this deficit affects the lowest income segments of society. The overall deficit dropped from 53.6% in 1993 to the 36.2%

already mentioned in 2005.

- The deficit is both qualitative and quantitative. 12.3% of households were considered as experiencing a quantitative deficit. This means that 1.3 million additional units are needed to provide a home to every household. The rest of the deficit, 23.8%, refers to the quality of housing and affects nearly one in four households or 2.5 million families.

- Even though there is no official census since 2005, a number of reports written since then argue that the situation has not improved[3].

- Not only the housing deficit is high, but also it is growing as a result of demographic factors like increasing population and smaller household size.

- During the last decade, an average of 140.000 new housing units were produced annually. This shortage of supply versus demand has been compensated by the expansion of the rental market and the production of informal housing[4].

As housing policies have evolved in the last 70 years, the only regulation that has addressed the rental market directly is Law 820 of 2003, commonly known as the 'Renter's Law'. The Law was aimed at stimulating the production of formal rental housing but since then, there has been almost no development of such. Although it didn't served this purpose, the 'Renter's Law' did regulate the rental contracts of urban real estate. Additionally, it created an incentive to invest in social-interest rental housing; a tax exemption on rental income derived from those types of properties for ten years. As of today this has not produced seldom any for-rent housing development. Law 820 will be better explained in Chapter 4.

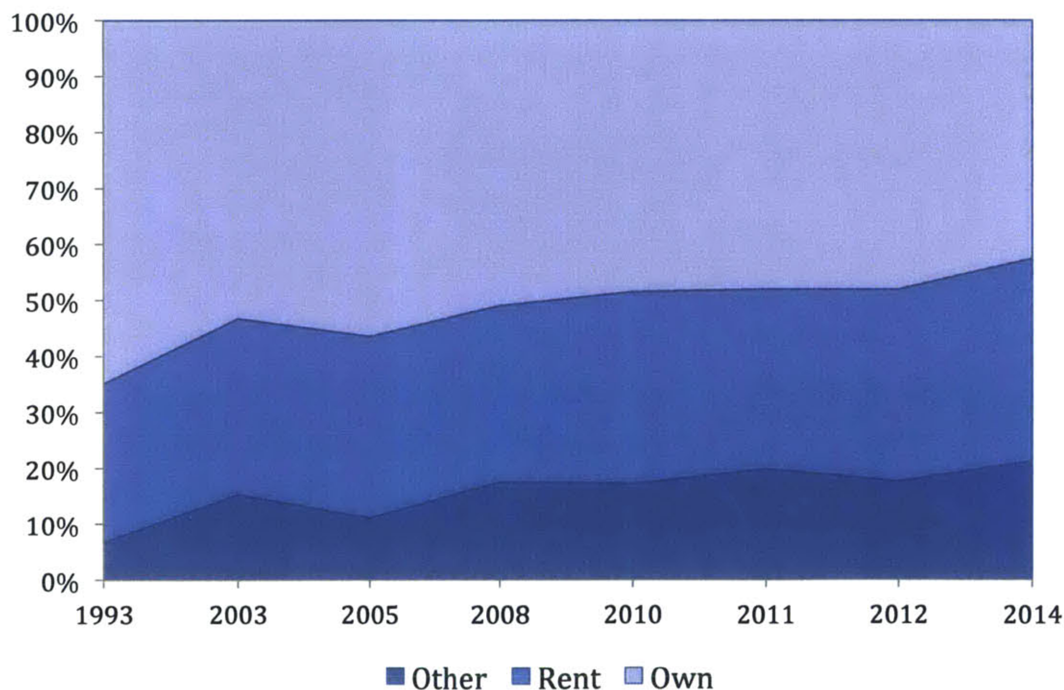
The political agenda towards renting might be slowly shifting. In recent years, many distinguished members of the real estate industry have started raising their voices for the necessity to better regulate and create programs that impulse the rental market as a complement to the ones already in place that support homeownership. Some of the more active supporters of this idea are the Inter-American Development Bank (IDB), the Center for Construction and Urban and Regional Development Studies (CENAC), Fedelonjas, the

[3] See Torres (2014), Torres (2012), Arbelaez, Steiner, et al. (2011), and Arbelaez, Camacho, et al. (2011)
[4] CENAC – "Estudio sobre el Mercado de Arrendamiento de vivienda en Colombia" - Original source: Departamento Nacional de Planeacion 2010

National Savings Fund (FNA), Colombia's Chamber of Construction – CAMACOL, and some private developers that are interested in the subject. The government is not ignoring this reality and is currently studying different proposals and working with advisors to decide how the adoption of a new legal and regulatory frameworks can help create a market for institutional developments of rental housing.

RENTAL HOUSING IN COLOMBIA

Colombia has historically had a fragmented home tenure configuration. As of the last official report available on the subject, DANE (2014) reports that 42.6% of households in Colombia are homeowners and 36.3% of households are renters, with the remaining households reporting as being in usufruct—when the household is authorized by the housing owner to occupy the home without paying rent—or de facto occupiers of their housing (Figure and Table 1).



Tenure	1993	2003	2005	2008	2010	2011	2012	2014
Other	6.6%	15.3%	10.7%	17.4%	17.3%	19.7%	17.6%	21.1%
Rent	27.7%	31.4%	31.3%	31.6%	34.3%	32.2%	34.4%	36.3%
Own	63.5%	53.3%	54.4%	51.0%	48.5%	48.0%	48.1%	42.6%

Figure and Table 1: *Housing tenure in Colombia, 1993-2014. CENAC and CAMACOL (original source - DANE)*

This proportion of housing tenure in Colombia makes it the country with the highest share of rental housing in Latin America (Figure 2). On average, among 81 countries in different regions of the world, close to one out of five households rent their homes. In Colombia, this ratio is almost doubled.

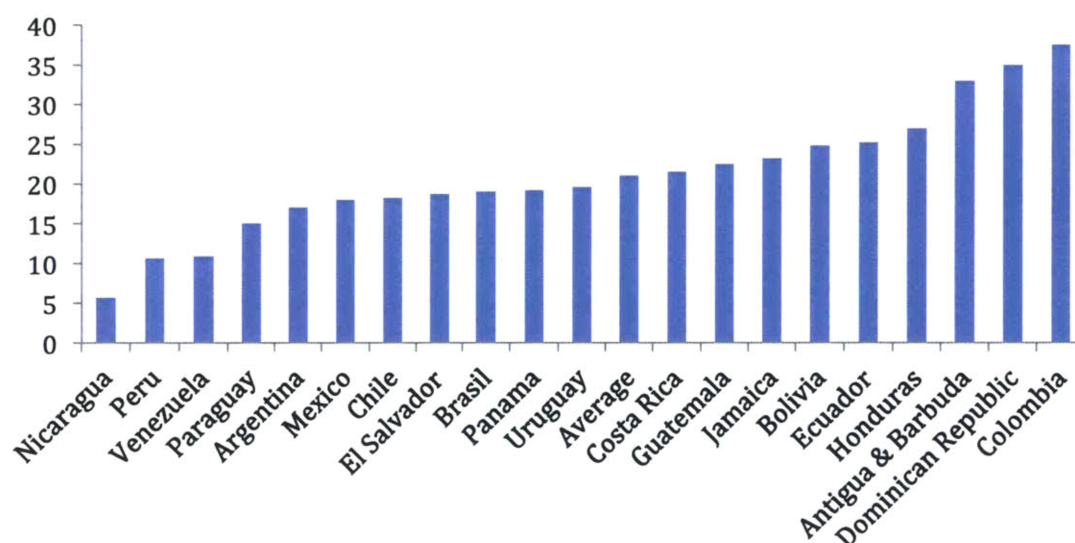


Figure 2: *Rental tenure as percent of all households for Latin American and Caribbean countries. IDB - Rental Housing Wanted (2014)*

This market feature is even more significant when seen for individual cities. From the first four cities with the highest rental tenure as a percentage of all households in Latin America, three of them are in Colombia (Figure 3). The one with the highest percentage in the region is Bogotá, followed closely by Medellin and Cali. They are also Colombia's three largest cities.

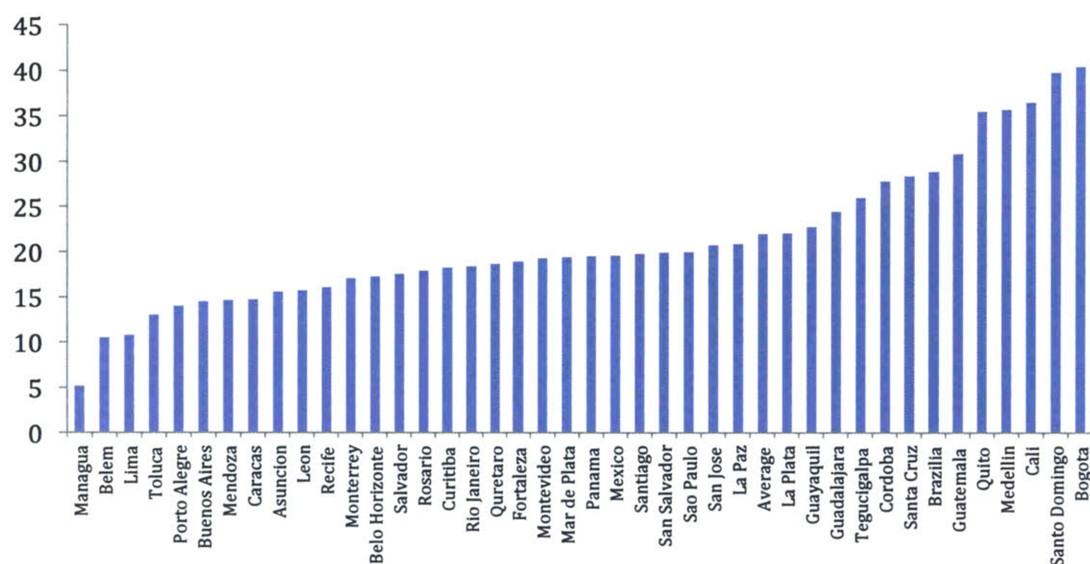


Figure 3: *Rental tenure as percent of all households in Latin American and Caribbean main cities - IDB - Rental Housing Wanted (2014)*

While some policies and efforts towards the goal of homeownership in Latin America have resulted in a substantial growth in the rates of property ownership in the main cities, this is not the case for Colombia.

City	1950s	1970s	1990s	2000s	2010s
Mexico City	25	43	70	74	70
Guadalajara	29	43	68	68	64
Bogotá	43	42	54	46	42
Medellin	51	57	65	54	48
Cali	53	58	68	51	40
Santiago de Chile	26	57	71	73	63
Rio de Janeiro	38	54	63	70	74
Sao Paulo	41	62	71	75	78
Buenos Aires	27	61	62	67	57

Table 2: *Growth in Rates of Property Ownership in Main Cities by Decade (in percent) - IDB - Rental Housing Wanted (2014)*

We can see (Table 2) how Mexican and Brazilian cities as well as Buenos Aires and Santiago

de Chile have experienced an evolution in home ownership. Mexico City has gone from 25% in the 1950s to 74% in the 2000s and finally to 70% in the last decade. However, since the mid-20th century, Colombia's main cities have either maintained or declined their property ownership rate.

The reasons for the Colombian singularity, where home ownership rate have remained stable while in the rest of the region it has evolved, are many. One of the most relevant ones is urbanization.

Latin America is considered one of the most urbanized regions in the world according to the United Nations, with almost 80% of its population living in cities, a number that surpasses many developing countries. Colombia is not the exception. Since the mid 20th century, there has been a continuous migration from people living in rural areas into middle and big size cities. This rapid urbanization has been a result of six decades of regional disparities, a history of rural violence, and an agro-industry in decline, while cities blossomed thanks to an economy centered in commerce and services. In 1951, 64.0% of households where located in rural settlements. This proportion dropped to 22.3% in 2005 (Figure 4).

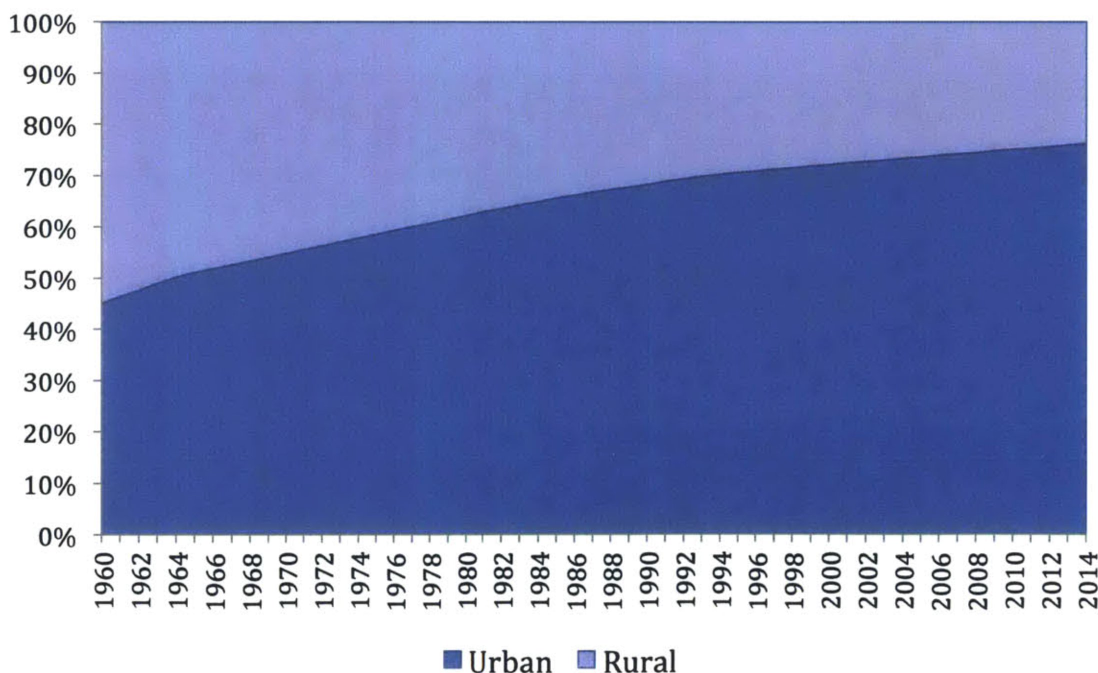


***Figure 4**: Urbanization in Colombia, 1960-2014 (UN)*

Another reality facilitating rental-housing expansion, especially in the last decade, has been the exponential growth in housing prices. The value of new homes has increased an average of 10.6% annually while the inflation for the same period of time has been on average 3.9% (Figure 5). This yearly real appreciation of 6.7% represents less affordability to buy a new home for the average Colombian family. Consequently, formal housing in Colombia has become expensive. The coefficient between average price and average annual income for an urban house in Colombia is 4.94[5] while for the United Stated is only 2.49. This means that a family from Colombia has to work five years devoting 100% of its salary to buy an average home, almost twice as one in the United States. If we take into account the cost of debt, this analysis would be even worst. Interest rates are substantially higher in Colombia than in the U.S. (even with subsidies given by the government to the most needy), making it even more challenging to buy a house.

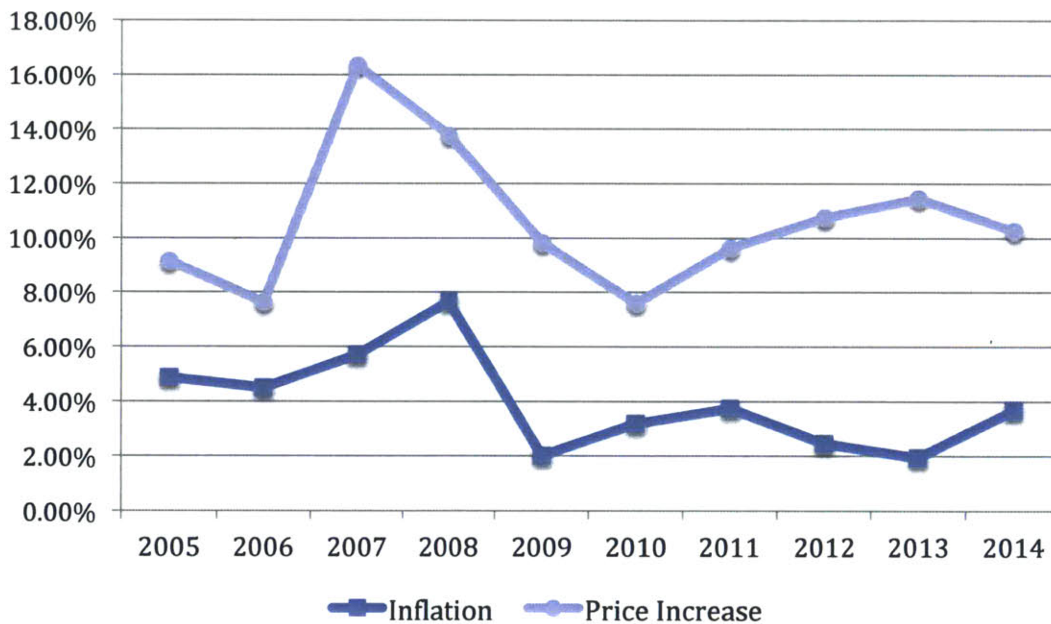


Figure 5: *Inflation versus growth in new housing prices (DANE)*

This undersupplied, and now expensive, housing market has been the perfect foundation for the growth of rental housing. Individuals struggle to find an affordable home and to come up with the down payment (30% of the total value of the house) and debt needed to buy. Instead, it is much easier to rent. Usually, monthly rents will be less than a mortgage

[5] HOFINET (Housing Finance Information Network) is a database administered by the Wharton School at the University of Pennsylvania, the International Financial Corporation, and the Entrepreneurial Development Bank – Colombia: 2010, United States: 2011

payment (see Appendix). Also, a renter enjoys the benefits of living in a denser, more central location (IDB 2012) and having greater flexibility to move.

The conditions of the housing market described above affect all of the households in Colombia regardless of their income. Although irregular and informal settlements account for a large proportion of the rental housing stock, there is a high incidence of rental tenure in all income levels. In Colombia, the rental market operates widely for the families who are most in need as well as for richer classes.

To illustrate this, we can see (Figure 6) that renting is relevant to at least 29% of Colombian homes in any of the income thresholds; a very substantial number if you compare it to the average rental tenure for Latin American and Caribbean countries which is 20.9%. Within the poorest households (by income level), 33.6% use the rental stock and 27.6% are de facto occupiers. As total income increases, homeownership becomes more appropriate and increases from 38.7% for the families earning less than two minimum monthly wages, to 65%, for the ones that receive more than eight. But, the space that homeownership gains is mostly taken by 'other' (informal) choices of home tenure, and renting keeps being a suitable alternative for the mid and high-income groups.

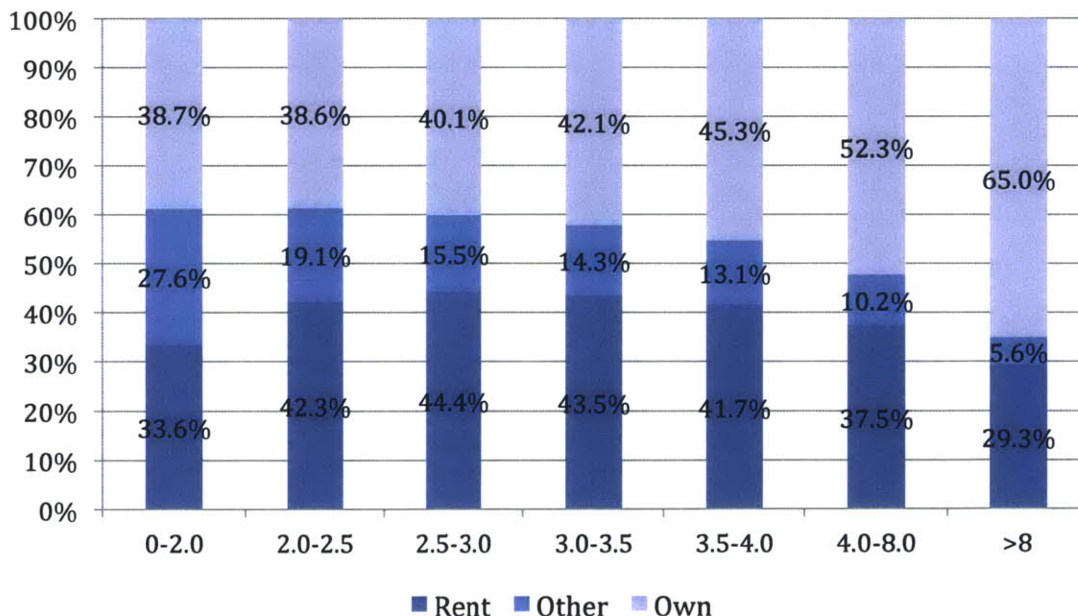


Figure 6: Housing tenure by household income expressed in SMMLV[6] (DANE)

[6] In Colombia, income statistics are based on the SMMLV unit of measure. The SMMLV is the Spanish acronym for

Most of the research done in the subject suggests that the rental market share will continue to be high in the future. The user of a house is changing priorities from 'security and trust' to 'location and ability to move'. Millennials (those born from the early 1980s to the early 2000s), who account for almost one quarter of the population of Colombia, and have a variety of reasons for staying out of the owner housing market, are eager to rent. As this generation grows older (some of them are still in school) smaller for-rent units will be needed to accommodate them in the main cities. Additionally, other demographic factors such as an increasing population and a smaller household size will contribute significantly to the demand for rental housing in the country.

Even though the rental market is important in Colombia, it lacks sophistication and professionalism in many aspects. As L. Gil[7] puts it:

> *"The relatively high incidence of rental tenure, however, does not necessarily mean that the rental sector in Colombia is functioning well. The current rental housing supply is diverse, private and small-scale, and consists mostly of individual owners of the same social extraction as their tenants."*
>
> *"Colombia's rental market is characterized as being highly fragmented and predominantly informal. Firms specializing in rental housing—either its development or management—account for only 1 percent of the rental stock in the nation (A. G. Blanco 2014). This can be attributed, at least in part, to the informal manner in which much of the rental stock has evolved."*

This dichotomy between a country with a strong bias towards rental tenure and an underdeveloped and unsophisticated rental industry (which will be discussed in chapter 3) creates the sort of opportunities that this thesis wishes to address.

MULTI-FAMILY FOR RENT – A UNIQUE ASSET CLASS

In countries where there is a mature, developed real estate industry, the rental market plays a more complex role. The for-rent business is considered as a different product than housing for sale. For decades, these markets have struggled to identify the differences and the

---

the Legislated Minimum Monthly Wage, and is set annually. Currently, the SMMLV is COP$644,336 (around $250USD) for 2015.

[7] Luis Gil – Renting in Colombia (2015)

industry has evolved and adapted to them. There are variations in the risk and return profile, as well as in the target customer for whom you develop. A typical tenant who does not own the house that he occupies has different preferences in location, the design of the dwellings and communal spaces, and the interaction with the environment.

This product has become a unique asset class where developers, investors and property managers can specialize or allocate some of their capital. In the United States, one of the most active real estate capital markets of the world, 'Apartments' buildings for rent are second only to 'Retail' in the current portfolio configuration of REITs (Figure 7) that have a total market capitalization of USD $890 billions[8].

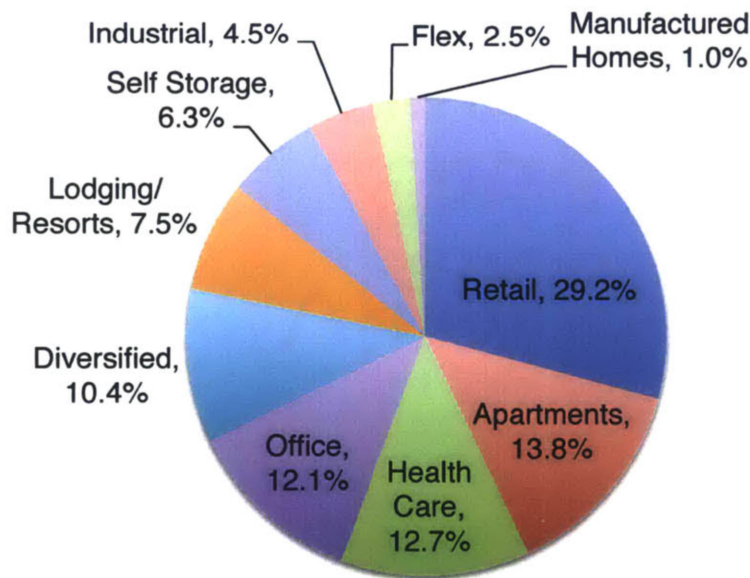


Figure 7: *Listed REIT Market Capitalization by Property Type - Source: NAREIT - September 30, 2014*

About 38% of rental households in the US live in single-family units where institutional owners comprise the vast majority. On the other hand, about 43% of the rental community lives in buildings with five or more rental units, where corporate ownership is substantial. Of all of the multi-family developments started in the last five years in the US, more than 80% where built-for-rent. These projects account for in between 10% to 30% of total US housing starts depending on where you are on the housing cycle.

[8] REIT.com – Industry Snapshot June 30,2015 - FTSE NAREIT All REITs equity market capitalization

Colombia has a similar rental tenure share than the US, close to 35%, and a stronger bias towards apartments; 60.3% of rental households in Colombia live in multi-family developments. If we take into account that total housing sales for new developments in the country for the last year were COP 8.2 billions (US$3.2 billions), we can conclude that the opportunity is significant. If we would assume the same proportion of corporate ownership for total housing starts as in the US, the investment opportunity would be around COP 0.8 to 2.5 billions each year. This analysis disregards other factors, but it is meant to highlight the major value that corporate developed and owned rental housing could add.

What are the typical advantages observed in multi-family developments versus other property types in matured countries?

1. **Favorable Supply / Demand Fundamentals:**

Overall rental demand is strong and responds very efficiently to changes in the market. As a result, in comparison to other property types, multi-family has historically had the lowest vacancy rates in countries like the US. Even at the peak of the US housing bubble it was at an acceptable 7.4% (Figure 8).

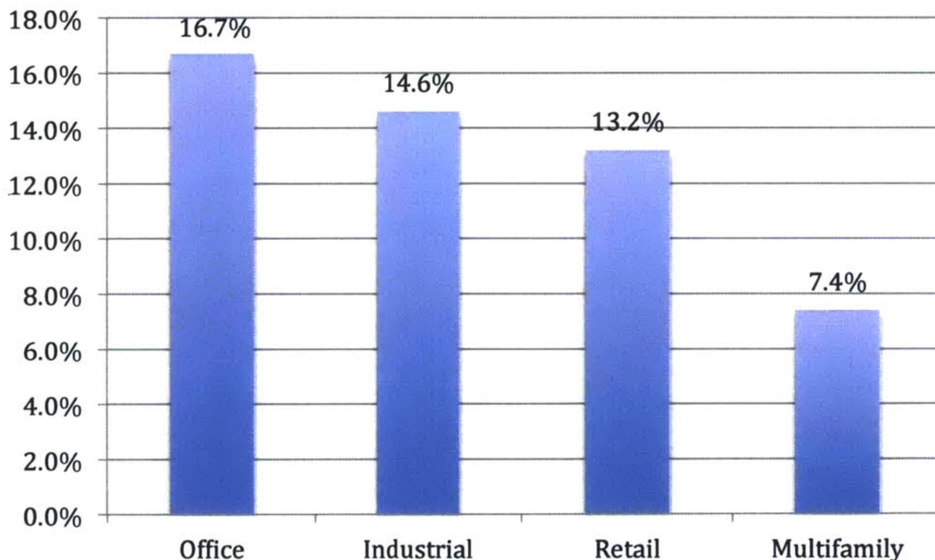


Figure 8: Peak of *US Vacancy rates during the 2008 Real Estate Recession by Property Type*

2. **Hedge Against Inflation:**

Apartments have shorter leases than other property types, allowing near-term realization of recovering market fundamentals and changing market conditions.

3. **Low Volatility:**

Apartments have historically experienced much lower variability with respect to market rents, vacancies and valuations than other property types. They won't drop as housing prices do. In addition, multifamily assets have limited revenue concentration risk. Unlike other property types, where individual tenants can occupy a large portion of the asset, revenue decline from any one multifamily tenant vacating minimally impacts gross revenue. Hence, rental-housing properties are more secure in a recession.

4. **Efficient Attractive Financing:**

Due to the efficient demand and low volatility mentioned above, lenders typically offer their most aggressive terms on multifamily assets.

The combination of strong property-sector fundamentals and the availability of debt at low interest rates have shaped perceptions of multi-family developments as a safe harbor for investors. Therefore, US cap rates for apartments are usually the lowest compared to other asset classes (Figure 9 – green line) and more importantly, as mentioned before, they have low volatility even in times of distress.

On the other hand, the disadvantages are usually:

1. **Higher tenant turnover.**

   In the US, a turnover of 50% is typical. That means that half of your properties will have to be leased every year. When compared to retail, office or industrial assets where contracts are signed for 5, 10, or even more years, this can be a real challenge.

2. **More active property management and leasing activities.**

As a result of the shorter leases and the considerable amount of tenants per building, apartments have a higher operational load and incur in continuous leasing activities.

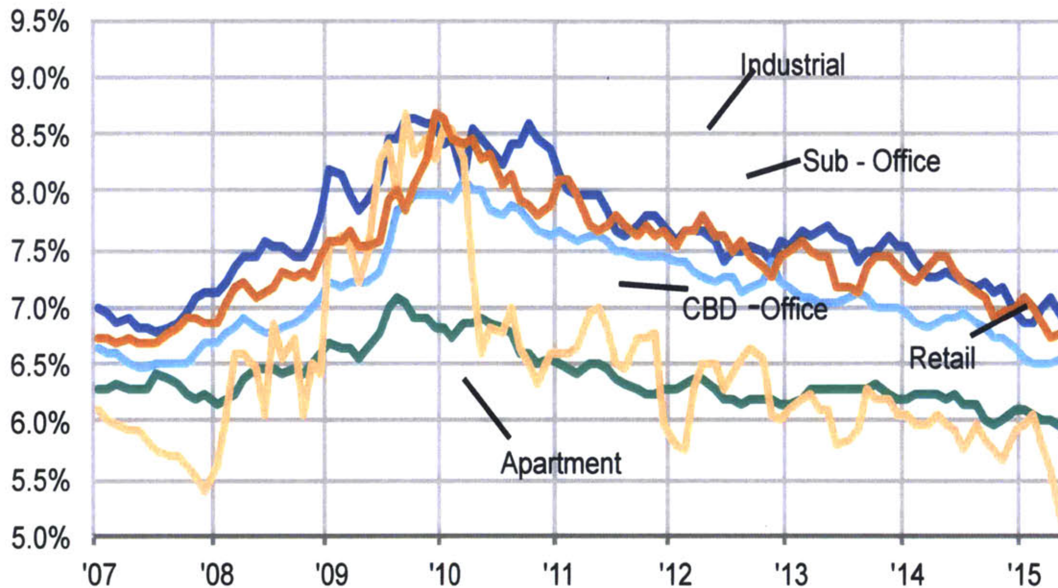


Figure 9: US Cap Rates by asset class – Source: Real Capital Analytics - July 2015

TAKEAWAYS

- Investing in Colombia is a good idea
- Although housing policies have focused on homeownership, the housing deficit in the country has persisted and the proportion of rental tenure has remained as the highest in Latin America.
- The rental market in Colombia is substantially large in all income levels but the current supply is diverse, privately-owned by individuals and small-scale.
- In mature markets, multi-family assets are one of the safest investments and capture an important share of the institutional real estate portfolio.

2. THE SPACE MARKET

This chapter will show the structure of the current rental market in Colombia. Also, we will submerge more deeply into Bogotá. The following sources of information were used for the analysis:

1. National Administrative Department of Statistics (DANE) – National Households Poll 2014 and 2005 Census.

2. "Galería Inmobiliaria" - Used Homes. This market research company specializes in measuring the new housing market in Colombia and has been following Bogotá's "used home" market since 2008. With an impressive sample size of almost 240,000 housing units, they cover 61% of total homes in stratum four, five and six[9] in Bogotá. They do this by visually identifying the banners that the landlords use to advertise their apartments and afterwards, calling them to collect all the required information about the unit.

3. CAMACOL – Research made for the "Unidad Administrativa Especial de Catastro Distrital" (UAECD) that is meant to understand the trends of rental yields by asset class in Bogotá. UAECD is responsible for defining the cadastral value of the properties, which is later used for property taxes calculation. For this research, CAMACOL matched the commercial value and monthly rent of 1,559 rental homes in Bogotá.

RENTAL HOUSEHOLDS

In year 2014, 36.3% of Colombia's households lived in a rental unit. That accounts for 4.9 million homes. In Bogotá there is an even stronger tendency to rent. More than half of its population, 52.4% of households chose rental housing. That accounts for 1.3 million homes.

[9] In surveys relating to housing Colombia classifies households in terms of strata, with 1 being the lowest and 6 being the highest. This classification is primarily based on the state of the housing, taking into account the appearance of the housing, its physical conditions, the neighborhood in which it is located and its material stability. Such classifications act as proxies for the socioeconomic status of households and serves as the basis for price differentiation for public services. Higher stratum households are charged more for such services, subsidizing lower stratum households, which pay less. Strata assignations are also used in determining which households may benefit from social-interest programs.

This significant difference in rental tenure in the capital exists at all income levels but is highest in the lowest thresholds and becomes smaller as household income increases. The rental tenure for families that earn less than 2 SMMLV[10] is 63.3% in Bogotá versus 33.6% in the total country: a substantial difference of 29.7%. For families that earn more than 8 SMMLV this difference decreases to 2.4% (Table 3).

SMMLV	Rental Households Colombia	Rental Tenure Colombia	Rental Households Bogotá	Rental Tenure Bogotá	Difference Rental Tenure Bogotá vs. Colombia
0-2.0	2,525,030	33.6%	515,159	63.3%	29.7%
2.0-2.5	511,128	42.3%	140,873	60.5%	18.2%
2.5-3.0	424,742	44.4%	120,637	58.1%	13.7%
3.0-3.5	324,045	43.5%	99,857	53.4%	9.8%
3.5-4.0	222,328	41.7%	76,864	52.4%	10.8%
4.0-8.0	682,400	37.5%	244,399	43.2%	5.6%
>8	242,292	29.3%	106,039	31.7%	2.4%
Total	**4,931,965**	**36.3%**	**1,303,828**	**52.4%**	**16.1%**

Table 3: Rental Tenure Colombia and Bogotá – GEIH DANE 2014

Some of the most distinctive characteristics of typical rental households are the following:

- Smaller household size. The average number of persons in a rental household is 3.2 in Colombia and 3.0 in Bogotá. Homeowners' households have an average of 3.6.

- The average age of the head of a household is 40.6 years (Figure 10).

- The average monthly rent is COP 347,146 for Colombia and 459,500 for Bogotá.

- The monthly income by household is COP 1,756,072 for Colombia and 2,294,881 for Bogotá. This shows that around 20% of the income is devoted to the rent, on average for both Colombia and Bogotá.

[10] In Colombia, income statistics are based on the SMMLV unit of measure. The SMMLV is the Spanish acronym for the Legislated Minimum Monthly Wage, and is set annually. Currently, the SMMLV is COP$644,336 (around $250USD) for 2015.

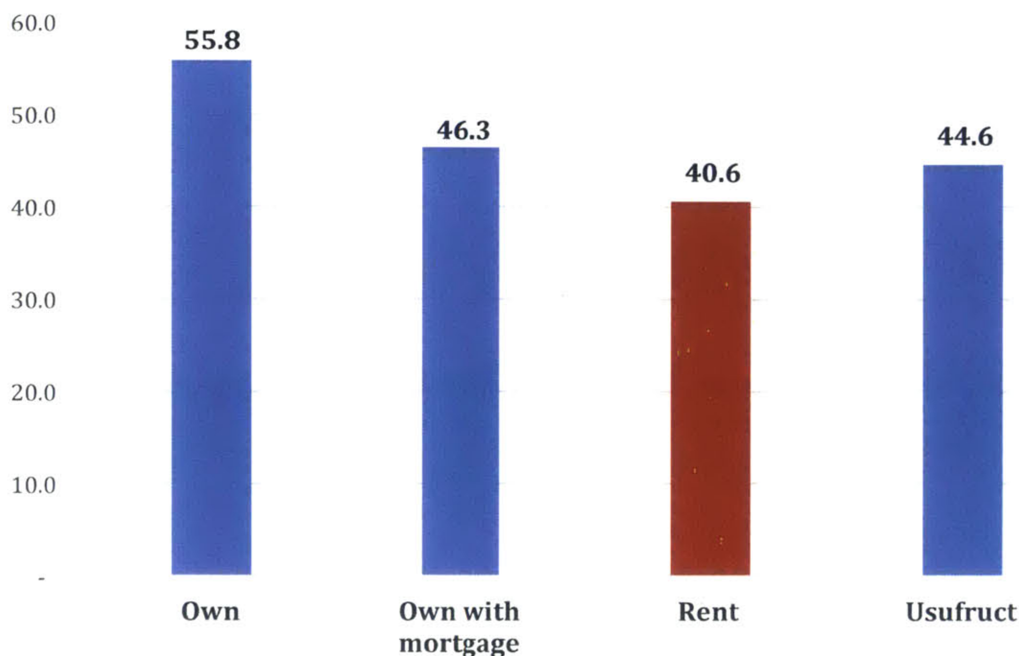


Figure 10: *Average age of households' head - Colombia – GEIH 2014*

- In Bogotá, 71.3% live in an apartment while 60.3% do so in Colombia as a whole.
- Bogotá accounts for 26% of the total number of rental households in the country and 43.8% of those who earn more than 8 SMMLV.
- The head of a household is usually a young professional. In Bogotá, 56% of them are less than 40 years old and account for 29% of the total households in the city. In the whole country, they account for 19% of the total universe.
- The rent collected in 2014 by landlords in Colombia sums up COP 20.5 Billions, which represents 29% of the total construction industry's GDP.
- The average rental unit size in Bogotá is 75.8 m^2 in strata 4, 90.2 m^2 in strata 5, and 105.9 m^2 in strata 6.

Refer to the Appendix to deepen the understanding of rental households in Colombia and Bogotá with additional information compiled by CAMACOL's economics research team based on DANE's 2014 National Households Poll.

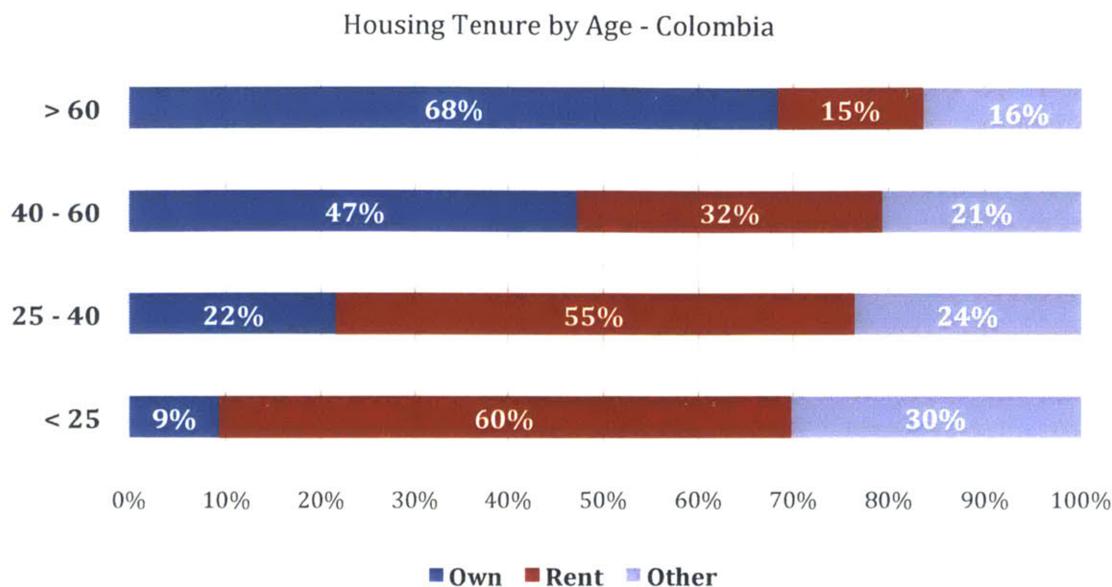


Figure 11: Housing Tenure by Household head's age – GEIH 2014 (Colombia)

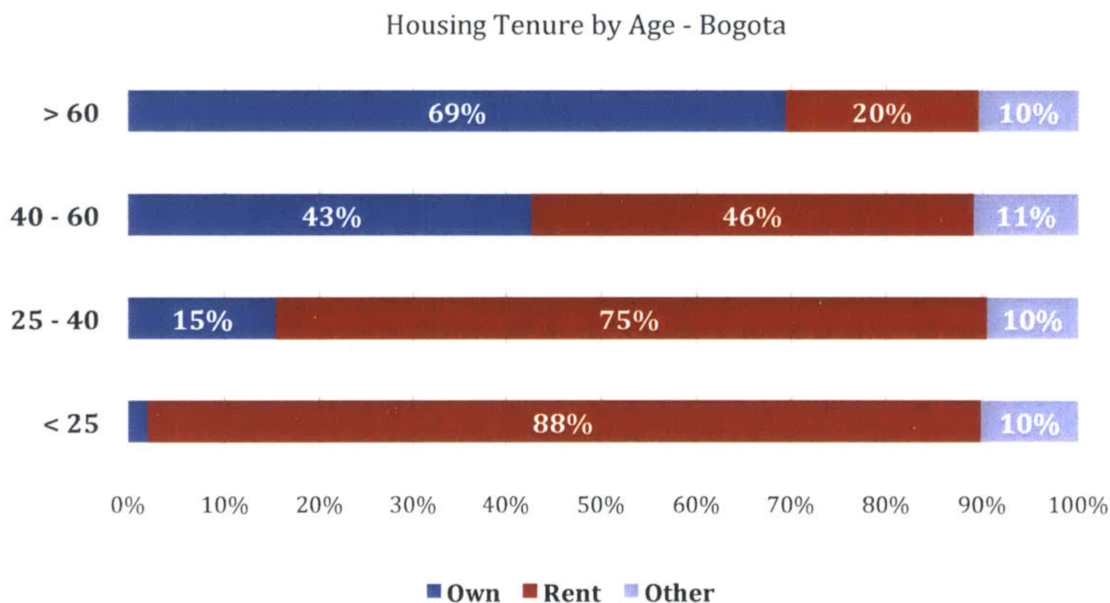


Figure 12: Housing Tenure by Household head's age – GEIH 2014 (Bogotá)

In the previous two charts, we can see the meaningful differences between the composition of housing tenure in Colombia and Bogotá in each household's age range. When the head of the household is less than 25 years of age, 60% will live in a rental unit in Colombia and in Bogotá this increases to 88%. The difference remains strong when the age is in between 25

and 40 (55% Colombia versus 75% Bogotá) and it decreases when households are more than 40 years old (14% difference in the range 40 to 60 years and 5% difference for more than 60 years).

BOGOTÁ – SUPPLY AND DEMAND

For the rest of the chapter we will submerge into Bogotá's mid and high-income rental market (strata four, five and six) that will be the subject of the financial model presented on chapter 5. Even though low-income rental housing accounts for a very significant part of the total market, the lack of information and the informality and illegality of the landlord-tenant relationship makes it very difficult to build a real and reliable model with the current regulatory framework.

The following table summarizes the size of the survey made by Galeria Inmobiliaria, the source used for the analysis presented in the following pages:

Stratum	Total Homes	Size of the Sample	% Homes in the Sample
4	257,220	133,925	52%
5	76,767	53,188	69%
6	59,832	52,768	88%
Total	**393,819**	**239,881**	**61%**

Table 4: *Galeria Inmobiliaria survey sample and total homes in Bogotá*

In May 2015 there were 4,561 available units for rent in Bogotá. On the other hand, the total absorption for the previous 12 months (June 2014 – May 2015) was 13,745 units, which represents an absorption rate of 1,145 units per month (Table 5). There is available rental stock for almost 3 months of absorption for stratum 4 units but almost twice for stratum 6 (5.7 months). This is a reflection of a stronger inclination to invest in more expensive homes by the typical real estate individual investor in the past, who has preferred this type of properties to lower and mid-income dwellings.

Stratum	Current Supply (May 2015)	Average Monthly Absorption	Months Supply[11]
4	1,577	550	2.9
5	1,137	272	4.2
6	1,847	324	5.7
Total	**4,561**	**1,145**	**4.0**

Table 5: Supply and demand – May 2015 by Stratum

Properties that are less than two years old account for 32% of the currently-available rental stock. The remainder units are located in buildings built more than two years ago.

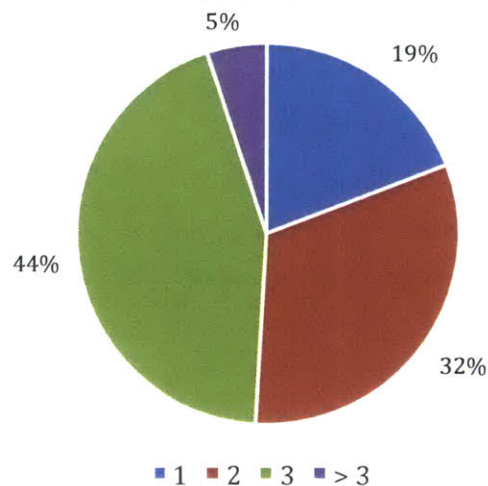


Figure 13: Vacant supply by Number of Bedrooms

The previous graph (Figure 13) illustrates how there is higher supply of bigger units. Almost half of the available stock is in 3-bedroom properties. 32% are 2-bedroom homes and 1-bedrooms account for only 19% of the units. Something similar is observed in the unit size breakdown (Figure 14) where only 7% of the properties are smaller than 50 m^2.

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[11] This measure tells how long it will take (in months) for all of the vacant space in the market to be absorbed, driving the vacancy rate to zero

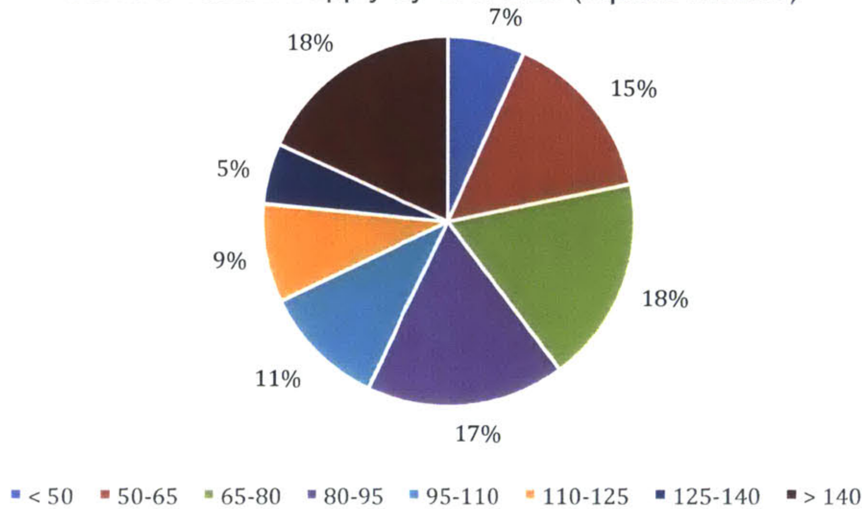


Figure 14: *Vacant supply by Unit Size*

In order to calculate an estimated total rental stock and vacancy levels, which the usual report of Galeria Inmobiliaria does not include, we used 'DANE's national household survey 2014' results for rental tenure by income level (see Table 3). The results of this analysis are the following:

Stratum	Current Supply (May 2015)	Percentage of Rental Tenure[12]	Estimated Rental Stock	Estimated Vacancy Rate[13]
4	1,577	43.2%	110,996	1.4%
5	1,137	43.2%	33,127	3.4%
6	1,847	31.7%	18,991	9.7%
Total	**4,561**	**41.4%**	**163,114**	**2.8%**

Table 6: *Estimated Rental Stock and Vacancy Rate by Stratum*

The previous table shows that vacancy rate is higher for more expensive homes, an issue mentioned above. Stratum 6 has the highest current vacancy, 9.7%. The following tables

[12] The percentage of rental tenure is obtained by assuming that stratum 6 have the same tenure split as households that earn more than 8 SMMLV and that stratum 4 and 5 in Bogotá have the same tenure split than those who earn in between 4 and 8 SMMLV.

[13] This estimated Vacancy Rate, as well as the rest of the data, disregards the fact that some owners will rent their apartments without using advertisement with banners, although it is not common. Also, the estimated Vacancy Rate ignores those units that may have a "for-rent" banner but are not vacant because the previous tenants are still living in the unit but agrees to post the banner.

show vacancy rates by district and the number of 'vacant days' that a property takes to get leased.

District	Vacancy Rate
Atabanza	0.3%
Teusaquillo	0.5%
Pablo VI	0.9%
Modelia	0.8%
Maranta	1.0%
Chapinero	1.6%
Mazuren	1.5%
Colina Campestre	2.2%

District	Vacancy Rate
La Felicidad	2.8%
Cedritos	2.6%
Córdoba	3.6%
La Carolina	3.7%
Rosales	5.2%
Chicó	9.4%
Multicentro	10.4%

Table 7: Estimated Vacancy by District

District	Vacant Days
Colina Campestre	219
Teusaquillo	210
Rosales	198
Mazuren	177
Chicó	155
Multicentro	145
Atabanza	143
Cedritos	140
La Carolina	126
Maranta	126
Chapinero	120
Córdoba	87
Pablo VI	87
La Felicidad	82
Modelia	65
Total	**140**

	Vacant Days	
Stratum	Multifamily	Single-family
4	125	215
5	137	189
6	148	224
Total	**137**	**209**

Bedrooms	Vacant Days
1	147
2	159
3	169
4 or more	179
Total	**140**

Table 8: Average number of vacant days by district, stratum (single and multi-family units) and number of bedrooms

Vacancy rates seemed to be low in most of the districts. Only Chicó and Multicentro have vacancy rates of around 10%. Both these neighborhoods experienced a large number of developments in the last years that transformed many traditional single-family areas into new mid-rise apartment buildings.

The study also measures the average number of vacant days that a property experiences when it goes to the market (Table 8). On average, once a for-rent banner is displayed in an apartment, 140 days are needed in order to rent the unit. We observe a significant range of results between districts. The district with the least number of days is Modelia, with 65, a little more than 2 months. The one with the greatest number of days is Colina Campestre, with 219, more than 7 months. We can also notice that as the number of bedrooms in a property increases, so does the number of vacant days. This rationale is also applicable to the stratum where the property is located.

RENTS

To get average rents as reference for new multifamily developments, we separated—from the database—properties that comply with the following criteria:

- No single-family homes, only apartments.

- The 'building administration fee' is not included in the monthly rent (some landlords may include this fee directly in the rent).

- The properties are less than 10 years old.

With this parameters, the average rent per square meter in 2014-2015 (data until May 2015) was COP $18,207 for stratum 4, $23,542 for stratum 5 and $32,213 for stratum 6. The following charts shows the results of this average rents by district, stratum and unit size.

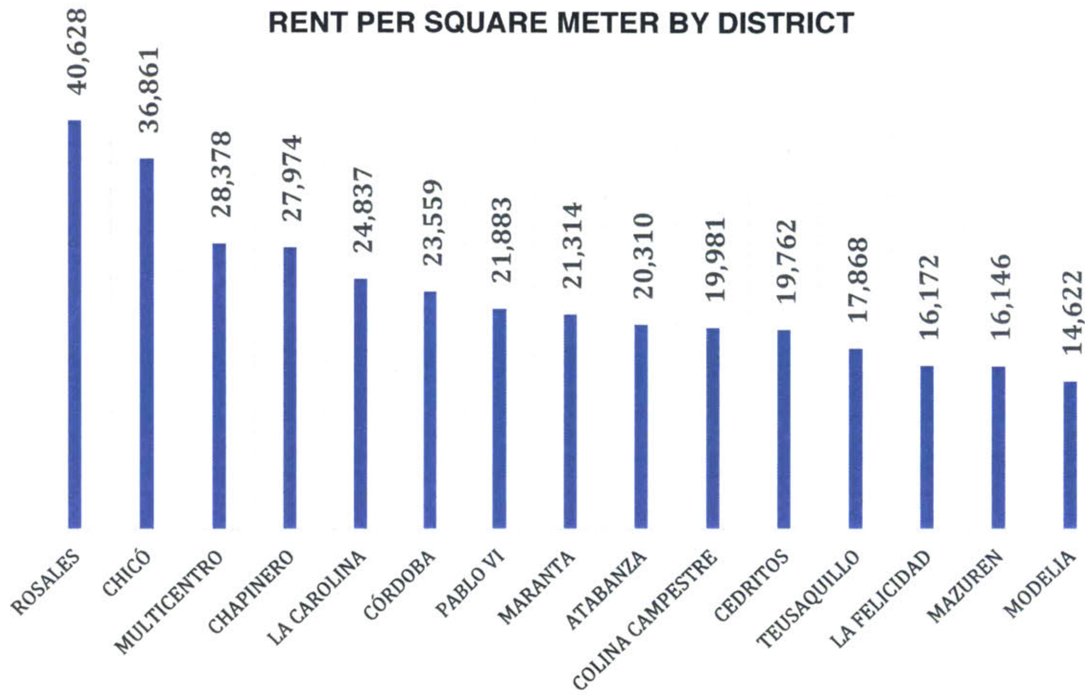


Figure 15: Average rent by district

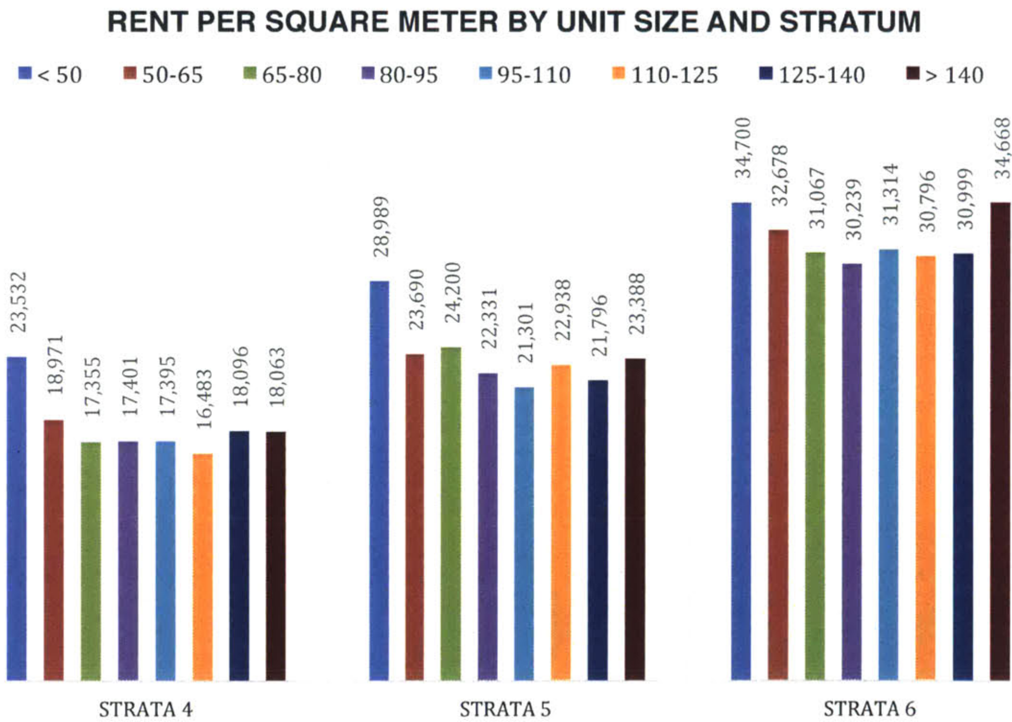


Figure 16: Average rent by unit size and stratum

We can see considerable variance across districts. Modelia, with the smallest number of vacant days (see table 8), 65, has also the lowest rental rate. Rosales, one of Bogotá's most prestigious neighborhoods has the highest rents per square meter, but it takes 198 days to rent an available unit.

It is clear also how smaller rental units have considerably higher rents than bigger dwellings. The price difference between units below 50 m^2 and those with greater areas can be as high as 12% for stratum 6. In the other strata the price difference is even greater and can be as high as 43% in stratum 4 where small apartments are uncommon. In general, as dwellings grow bigger, rents per square meter decrease. Apartments in stratum 6 with areas greater than 140 m^2 defy this general trend (large units are almost as expensive as the smallest ones).

Additionally to the rent, tenants will also pay for the building's management fee, which is collected monthly. The data shows that this payment equals around 15% to 16% of the rent (Table 9) and is consistent across stratums.

Stratum	2013	2014	2015	Average
4	15.1%	15.7%	14.4%	15.5%
5	16.3%	15.9%	15.2%	16.0%
6	15.7%	16.8%	16.0%	15.1%

Table 9: Average management fee as a percentage over rent by stratum

GROSS RENTAL YIELDS

Reliable information on rental yields is not easy to find. This is partly because rents and commercial values are not usually combined in the few datasets that are trustworthy. CAMACOL and UAECD Bogotá's recent research was one of a kind, mixing several sources, with the following results:

Strata	Unit Size	Rental Yield (per month)	Rental Yield (per year)
2	< 60 m^2	0.77%	9.26%
	60 - 100 m^2	0.57%	6.88%
	> 100 m^2	0.71%	8.56%
3	< 60 m^2	0.74%	8.83%
	60 - 100 m^2	0.61%	7.36%
	> 100 m^2	0.71%	8.47%
4	< 60 m^2	0.71%	8.54%
	60 - 100 m^2	0.59%	7.09%
	> 100 m^2	0.69%	8.24%
5	< 60 m^2	0.76%	9.10%
	60 - 100 m^2	0.60%	7.16%
	> 100 m^2	0.57%	6.89%
6	< 60 m^2	0.78%	9.36%
	60 - 100 m^2	0.58%	6.94%
	> 100 m^2	0.52%	6.26%

Table 10: Rental yields by stratum and unit size. Source: CAMACOL Rental Yield study for UAECD Bogotá - 2014

As we can see, rental yields compress as income levels rise. The same occurs with the unit size; larger properties have lower yields. The impact of these stabilized asset yields in financial performance of new developments, like the ones proposed in this thesis, will be discussed briefly in chapter 5. It is important to notice that reported gross yields are just the relationship between the monthly rental income of a unit and its commercial value, and ignore any vacancy and operating expenses (real estate taxes, insurances, etc.). These expenditures usually represent 20% of costs. This means that net yields would be around 5% to 7% in Bogota's stratum 4 and above.

3. THE ASSET MARKET

In the past 8 years there has been enormous capital inflows into Colombian real estate from local and international private equity and pension funds. Since year 2005, the number of private equity and venture capital funds operating in Colombia has grown at a 44,5% CAGR[14]. In the past, all buildings where sold in small units to individual buyers. Even today, this is how most of the industry works in the country, but this has started to change. As more sophisticated developers and investors enter, there has been a shift on how commercial, hospitality, and industrial projects are financially structured. Money partners are now typical entering big scale developments in top metro areas, and every year more of these new ventures are planned in single-ownership vehicles that focus on rental cash flows in order to maximize the value of the underlying asset.

The creation of this new real estate private and public equity market has been constant and dynamic. Different options for investors seeking real estate investments have evolved in the capital markets. The market now offers a considerable range of local and some international real estate funds, a sole but well-performing public REIT, crowd-funding platforms, and other instruments that fall somewhere in between. On the other hand, the debt market for this kind of project has not responded with the same interest and velocity. Financial institutions lack innovation and act more in a reactive rather than proactively. Historically, these corporations have focused on individual mortgage loans that account for around 4% of Colombia's GDP (in the U.S. this number is above 20%), and they still continue to do so.

This capital market momentum into real estate assets has ignored one on the safest asset classes that is a key alternative in matured countries: Multifamily. With a couple of exceptions in student housing, no corporate-owned building has been developed in the country. To enter the "formal" large-scale supply of rental housing, the industry must start by developing these properties. Acquisition of existing apartment buildings is almost impossible due to the multi-ownership structure that has existed to date.

As mentioned before, this represents an alternative tailored for both opportunistic funds in need of new developments, as well as for investors looking for stabilized properties with low volatility around economic cycles. In the many interviews conducted for this paper, both

[14] Colombian Private Equity and Venture Capital Association (ColCapital) Institutional Presentation - 2015

fund managers as well as debt originators recognize the investment potential of for-rent multifamily developments.

REAL ESTATE EQUITY

Developers and Homeowners

Historically, capital investments for residential projects have come from private developers and construction loans during the development period and from homebuyers and mortgage loans after completion (Figure 17). In this scenario, institutional capital partners didn't exist.

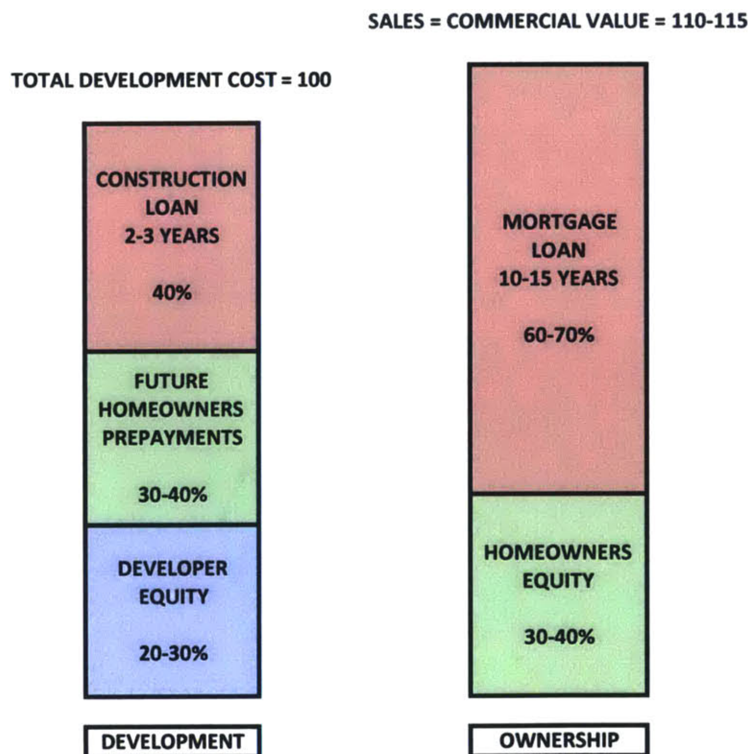


Figure 17: Traditional Capital stack during Development and Ownership phases for residential projects

Developers have raised seed money and sponsored multifamily developments but individual homeowners are actually the ones who have funded, normally with savings and mortgages, the rental market. Traditional developers started off as small family-run companies, with

initial capital investments coming from friends and family. Afterwards, many of those who survived the burst of the housing bubble in the late 90's, grew into more sophisticated and wealthy corporations. Today, the development industry has the following characteristics:

- Almost all developers are vertically integrated; they fund, manage, sell and build their own projects.

- There are few big, sophisticated developers that have exposure to different asset classes and geographies. Some of them are spin-offs of Colombia's most important banks, which still remain majority shareholders. Smaller firms with local knowledge and which operate looking for quick profits are more common. Half of all construction firms in the nation stay in the market for less than two years, and 70% for less than five years, with 71% of firms having values of US$500,000 or less (IDB 2012, 158). 82.2% of them have reported revenues for less than US$1MM per year (CENAC, 2007b).

- Developers have almost no experience in property management. In the current residential market this role is taken by specialized management companies, or in many cases, individuals with inadequate experience.

Housing developers have historically exclusively sponsored for-sale projects. As a result, individual owners have originated the rental market. Real estate has always been one of the favorite investments for Colombians. These "unsophisticated investors" who seek a steady rental income, have reaped the rewards of the significant housing price increase in the last decade. Consequently, millions of individual landlords, with the help of professional brokerage firms, own and manage the entire stock of rental properties in the country.

Real Estate Institutionalization

According to Brian Finerty, senior vice president and co-lead of investments with Equity International, one significant change in Colombia is the rapid evolution of the institutionalization of its real estate market. Since its first Colombian investment in Terranum Corporate Properties in 2011, *"it has been surprising to us how quickly the Colombian real estate market has moved to a for-lease rather than a for-sale model,"*[15]. The primarily reason for this

[15] THE 2014 GUIDE TO PRIVATE REAL ESTATE INVESTING IN LATIN AMERICA I PERE

professionalization has been the expansion of the capital markets investing in Colombian real estate.

The overall mix of institutional buyers with both foreign and local capital sources has been increasing and the level of transactions appears to have peaked in 2013. However, quality assets are difficult to come by. The following graph shows how the split between capital sources has evolved over time bringing dynamism and diversity to the real estate capital market:

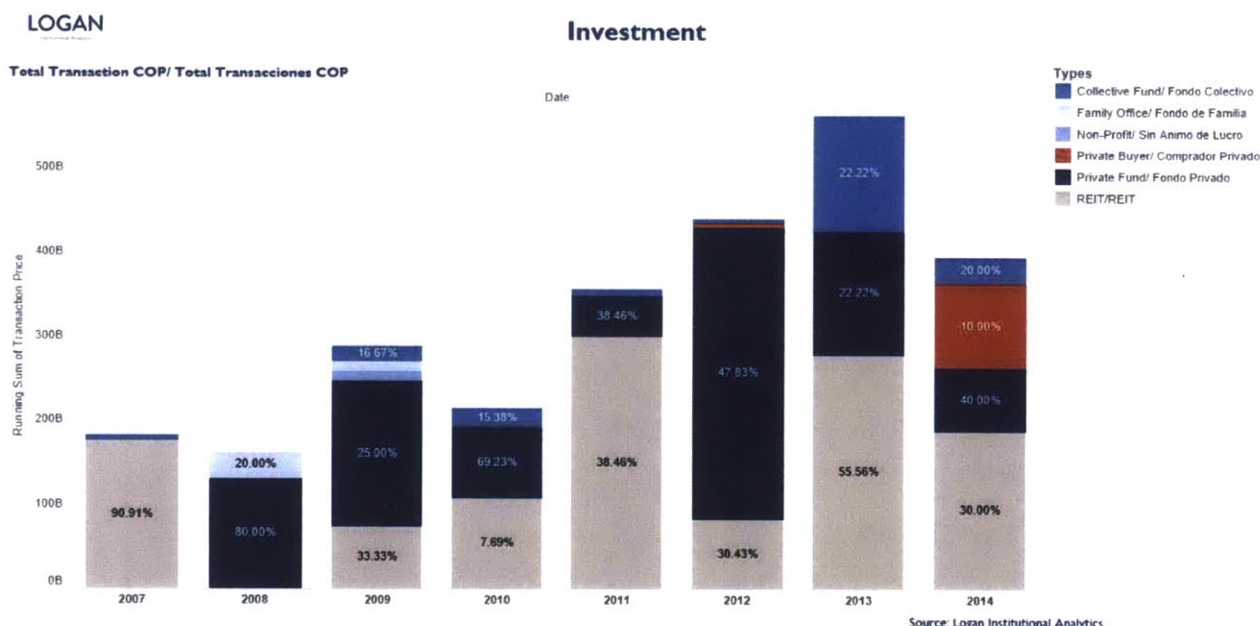


Figure 18: Institutional investments in Real Estate in Colombia[16]

REAL ESTATE FUNDS

The regulatory framework that allowed real estate funds to operate was sanctioned in year 2005. Only one decade later, Colombia has raised more than 50 real estate funds that currently have capital commitments for US$3.14 billion. They account for 42% of capital commitments in the total private equity and venture capital industries in Colombia, making them the leading segment (Figure 19)[17].

[16] Logan Valuation - INMOBILIARE magazine – "Investment Overview Colombia" 88th Edition – P130-134
[17] Colombian Private Equity and Venture Capital Association (ColCapital) Institutional Presentation - 2015

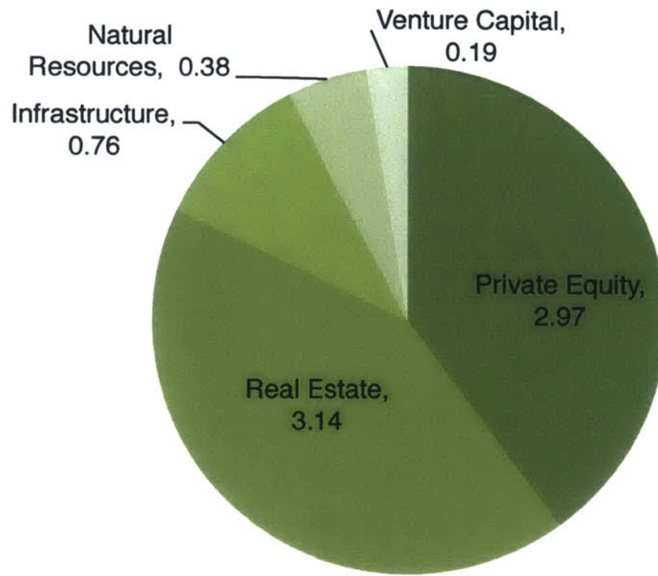


Figure 19: Size (USD Billions) of capital commitment by type of fund – ColCapital 2014

These local and regional funds are mainly seeking for opportunistic investments with expected rates of returns in the range of 18% to 25% before tax and equity multipliers of 2.0. In order to achieve these aggressive targets they will usually invest in new developments located in top metro areas with high-quality partners, which as mentioned above, are not easy to find. A significant share of these investments has gone to low and mid-income housing for-sale developments. Lately, this trend has shifted into industrial, commercial and mixed-use developments. Large distribution centers, office parks, and regional malls are being sponsored by some of the most important companies. The funds will normally have investment periods of two to three years and closing dates of between 7 to 10 years.

Recognized international investors have been part of this growing sector. Companies like Cadillac Fairview, one of North America's largest owners, operators and developers of commercial real estate, Equity International, a firm founded by Sam Zell that specializes in seed capital in fast-growing emerging markets, and Blackstone, the world largest private equity firm, have entered the country and sealed alliances with top developers.

Other than the opportunistic, they are also some funds that invest in stabilized properties and built-to-suit projects. They have been consistently growing. In the last two years, previously unthinkable and noteworthy acquisitions have been completed. Just last year,

Titan Business Center, a 12-story office tower located in what could be the most successful mixed-use project in Colombia, with approximately 14,500 m^2 of GLA was purchased by BTG Pactual from Ospinas, the original developer, in June 2014. The hospitality business has also been part of this trend. Similarly, last year Terranum group purchased almost the entire portfolio of properties from Decameron, the largest all-inclusive hotel & resort chain in Latin America. It was a US$500MM transaction for 27 properties in seven different countries.

PENSION FUNDS

Even though local pension funds have been increasing their investments in the real estate industry, they are far behind those in mature countries like the United States where real estate investments account for around 10% of defined-benefit assets (around US$ 600 billions allocated in real estate) and even more than that for defined contributions. In Colombia, the pension and severance funds manage a portfolio of investments of COP 181.4 billions (around US$ 68.3 billions). They have a small direct exposure to real estate because, as mentioned before, the regulatory framework that allowed them to invest in this industry is recent. Two challenges that pension funds face in order to expand their current allocations to real estate are the difficulty to find high-quality properties and the lack of expertise of their investment teams in these types of transactions.

REITs

Real Estate Investment Trusts (REITs) have become a means of channeling capital toward investment in real estate, diversifying risk among investors and incentivizing professional management of rental housing in the world. In Colombia, Terranum group launched the first and only public REIT in 2007, "Patrimonio Estrategias Inmobiliarias" (PEI). They currently have all types of asset class in their portfolio, except for apartments (Figure 20). PEI has a portfolio of 34 properties that are valued in COP 1.6 billions (US$0.6 billions) and sum up 436,656 m^2. Pension funds investments in this vehicle account for 58.9% of total contributions. With only 24.7% of leverage, a 2% total vacancy in 2014 and a diversified pool of assets, PEI has continued to attract investors. Just the last year, the number of shareholders went from 763 to 1,178.

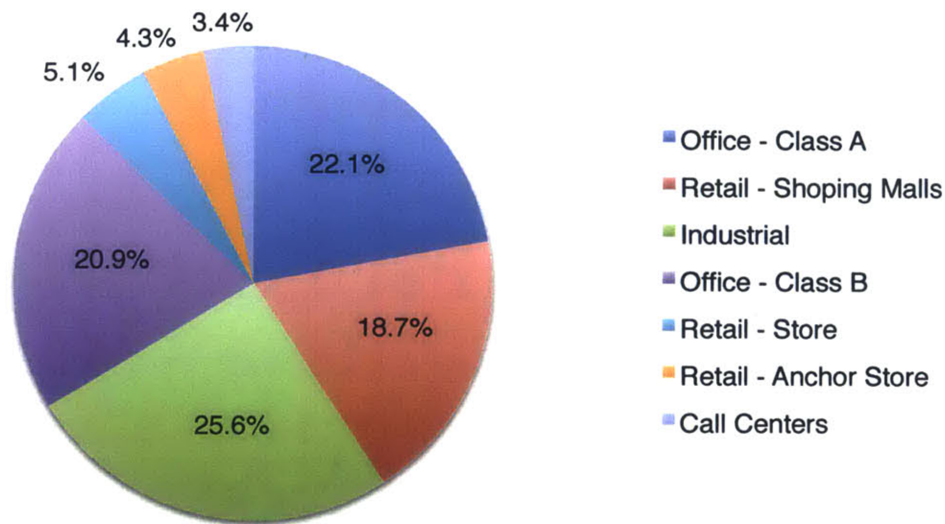


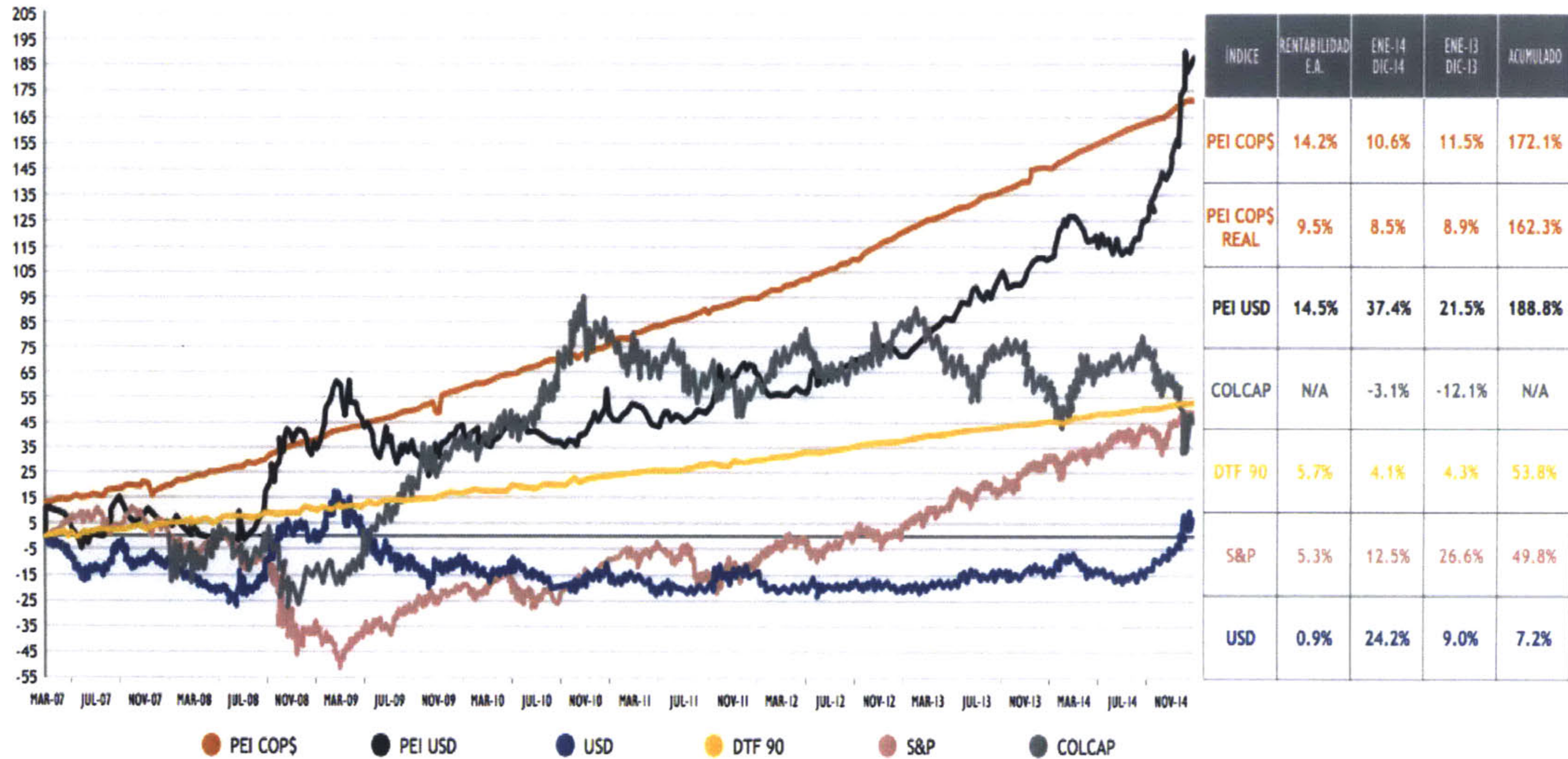
Figure 20: *PEI's Portfolio split by asset class 2014*[18]

As we saw in Chapter 1, US REIT's have an allocation of almost 30% of their market capitalization into apartments. This represents still an opportunity for PEI and the future REITs to come in the country. Residential properties can add diversification and reduce volatility during economic downturns.

In the following page (Figure 21) we can see that the single REIT achieved a 14.2% annualized internal rate of return since its launch in 2007. This result exceeds the returns of the Colombian (COLCAP[19]) and US stock market (S&P). It also shows an 8.5% spread versus DTF 90, which is the average fixed-term rate for 3-month deposits from financial institutions to the general public. This spread is used by funds as one of their most important targets. The targeted spread will normally be in between 8% and 9%.

PEI's historic results are a mix of outstanding returns during the first three years of the REIT's life and stable returns in the range of 10 to 13% from 2010 to 2014.

[18] Source for Figure 20 as well as the rest of information of PEI: "Informe Anual 2014" - PEI
[19] COLCAP Index is a market-capitalization weighted index that includes the 20 most liquid stocks listed in the BVC (Bolsa de Valores de Colombia). The market cap of the company represents the weighting on the index



INDICE	RENTABILIDAD E.A.	ENE-14 DIC-14	ENE-13 DIC-13	ACUMULADO
PEI COP$	14.2%	10.6%	11.5%	172.1%
PEI COP$ REAL	9.5%	8.5%	8.9%	162.3%
PEI USD	14.5%	37.4%	21.5%	188.8%
COLCAP	N/A	-3.1%	-12.1%	N/A
DTF 90	5.7%	4.1%	4.3%	53.8%
S&P	5.3%	12.5%	26.6%	49.8%
USD	0.9%	24.2%	9.0%	7.2%

VOLATILIDAD (Desviación estándar de la variación porcentual acumulada)

	PEI COP$	PEI USD	USD	DTF 90	S&P	COLCAP
A-	5.1%	10.6%	11.5%	N.S	22.5%	17.7%
B-	0.6%	7.5%	9.1%	N.S	11.5%	15.3%

A - Volatilidad acumulada desde 2007

B - Volatilidad últimos 12 meses

Figure 21: *PEI's return and volatility analysis*

RETURNS

There is no available professional research open to the public that analyzes historic returns in Colombian real estate. Nonetheless, the following exercise (Figure 22 and Table 11) table summarizes the returns of the real estate public and private markets for the last 5 years. PEI represents the public side. Inverlink and Credicorp, who are two of the oldest and major real estate funds in the country, represent the private one. Although it is not a perfect evaluation and ignores the rest of the funds, it is good enough to understand how trends and spreads versus CPI and treasury bonds have evolved over time.

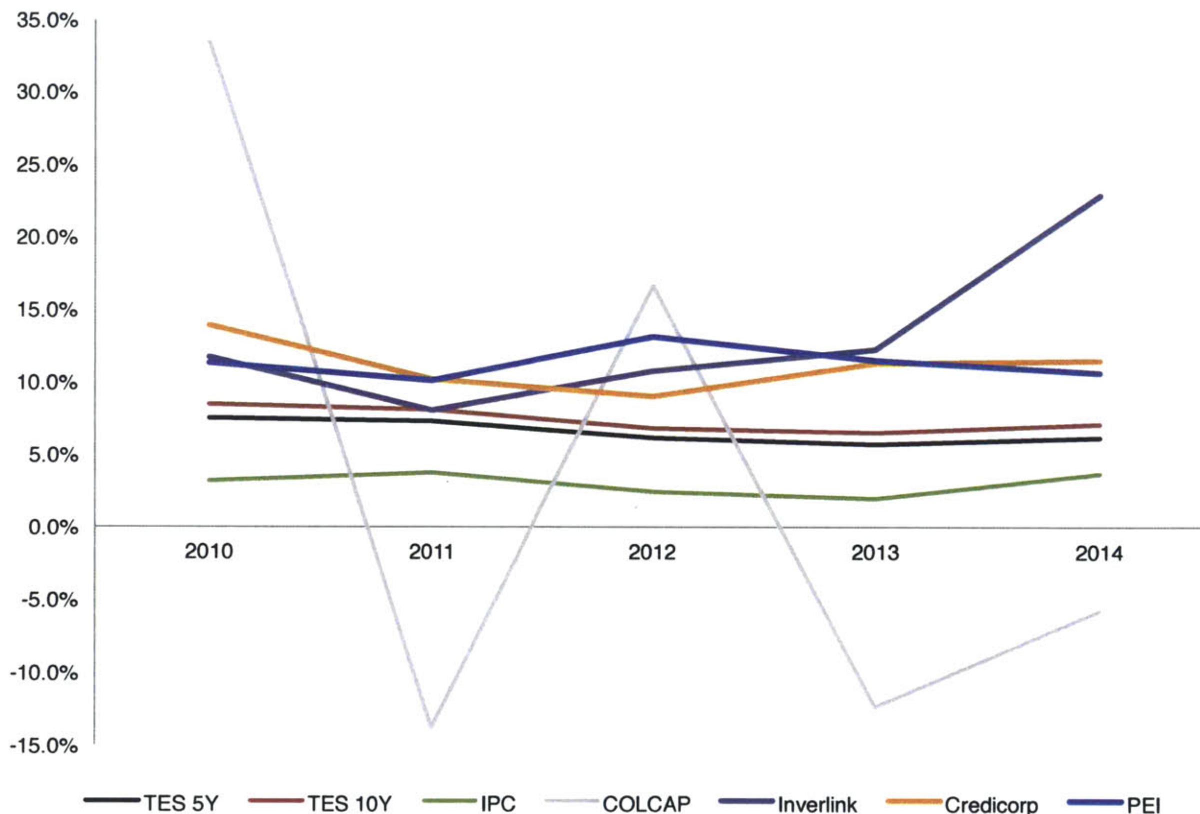


Figure 22: Annual returns of real estate funds and REIT vs. inflation and risk-free rates[20]

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[20] TES 5Y and 10Y are government treasury bonds for five and ten year which should be the risk-free rate to compare real estate investments in funds taking into account that they usually function in long-term, closed compartments. IPC (Indice de Precios del Consumidor) is Colombian Consumer Price Idex (CPI). Sources: DANE, Banco de la Republica, Bolsa de Valores de Colombia – BVC (Colombian stock market), annual financial reports for Inverlink, Credicoro – Inmoval and PEI. Inverlink 2014 returns are only available until June 2014. The significant return (22.9%) of 2014's first semester is a result of a substantial appreciation in their assets.

	Cumulative Returns 2010-2014
TES 5Y	6.6%
TES 10Y	7.4%
IPC	3.7%
COLCAP	1.9%
Inverlink	13.0%
Credicorp	11.1%
PEI	11.3%

Table 11: Cumulative returns for the previous 5 years of real estate funds, REIT and risk-free rates

Figure 22 clearly shows the high volatility that most liquid stocks have had in the previous five years and the very stable returns that real estate funds (Inverlink and Credicorp) and PEI have delivered. During the last five years (2010-2014) Credicorp had a cumulative return of 11.1%, Inverlink of 13.0% and PEI of 11.3%. On the other hand, stocks' (COLCAP) cumulative returns of 1.9% are below the IPC (CPI) for the same period of time (some of this may be due to smoothing of valuations). The average return for Inverlink, Credicorp and PEI was 11.8%. That results in a 530 basis points spread to the 5-year TES and a 440 basis points spread to the 10-year TES. Despite the fact that real estate has shown higher returns and less volatility than stocks, pension funds have historically preferred the stock market to real estate in their fixed income allocations.

CAP RATES

There are not many available and reliable sources that portray the historic evolution of cap rates in the country. Partly, because real estate transactions of stabilized assets is not that common. Nonetheless, "INMOBILIARE Latam", a real estate magazine with a regional scope, published an article by "Logan Institutional Valuation" that gives a very good outlook about what the current situation in the country is. The following text is extracted from the article:

"Overall, the number of institutional funds has been growing and the mix of buyers has been changing, cap rates have shown steady declines, and the price per M2 of transactions

has been increasing. The mix of institutional buyers has remained relatively constant with most of the purchases being completed by REITs or Private Funds (a form of investment fund) usually funded by local limited partners such as insurance companies or pension funds… Cap rates of institutional purchases have been showing a steady trend line downwards – from an overall average of 10.7% in 2007 to approximately 8.9% in 2014 (Figure 23), it represents a decline of 170 basis points. Also, the overall transaction size and transaction volume has been increasing year by year, peaking in 2013 with a volume of $562B COP and in 2014 with $393B COP.

The gap between cap rates nation-wide versus those in Bogotá, the capital and main business hub, have narrowed. Although our sample size is relatively small, it is clear that the investment market is competitive and has driven some buyers to compete – purchasing in secondary and tertiary markets, thereby driving cap rates downward. The most notable drop overall in cap rates were for office properties. We believe that it is due to some high profile properties being traded with credit tenants. Further, since 2014, the office market has begun to transition towards wholly owned Class A projects, with large floor plates and institutional tenants…"

Figure 23: Cap rates trends in Bogotá - Logan Institutional Valuation

REAL ESTATE DEBT

The credit markets in Colombia present another challenge to the development of formal rental housing in the nation. While, by many accounts, the credit and mortgage markets in the nation are deepening, financial markets in Colombia have not developed a system of financing targeted toward the development of rental housing. This is more a matter of a lack in demand for such a product than a willful omission on the part of the banking sector. As there is practically no formal development of new rental housing, it follows that there will be no demand for construction financing for such developments, let alone permanent financing once an asset is stabilized[21]. Hence, the banking sector's approach to residential developments has been to focus on individual mortgage loans. Currently, Colombia has almost 1 million individual mortgages that account for over COP 42 billions with an average of COP 43.3 millions per loan.

For the rest of asset classes where for-lease projects are now more common, the banks have come up with tailored products that satisfy each particular need. In an interview about this subject with Camilo Albán, vice-president of real estate and mortgage banking in Davivienda, one of Colombia's major financial institutions, we discussed how the banking system would approach this new type of multifamily developments and what characteristics could typical loans have. The following are the main statements made by Mr. Albán:

- Even though they do not have this particular product (for multifamily developments), it is indeed very similar to loans for other asset classes that the bank has issued before. For example, office buildings and student housing developments (two of them in Bogotá).

- He feels that multifamily assets can have more risk than other properties. There is almost no preleasing and it is not easy to evaluate the default risk from the tenants. Also, leases are for a shorter period of time than the ones in commercial or industrial projects. These are issues that would have to be further evaluated during the due diligence process.

- The loan would be divided in two phases. First, a construction loan during the development period and a posterior permanent loan for a longer holding period.

- Usually, the construction loan would have a 2 to 3-years term maximum with a loan to

[21] Luis Gil – Renting in Colombia (2015)

cost ratio of 80% (developments costs minus the land). Payments during construction would be only interest.

- The permanent loan would have 10 to 15-years term maximum with a loan to value ratio of around 60%. It is possible to have grace periods with no principal payments, only interest, for the first years of the leasing phase. In one case, they approved a 2-year grace period. The loan would be repaid with a floating interest rate of around DTF90 + 5 to 5.5%. There are no debt coverage ratio official limits.

- The quality of the developer and money partner are very important for the bank. They will look for solid financial statements and the capability to guarantee these substantial debts.

- These types of loans are custom-made to each new opportunity. The bank is open to exploring new projects and to evaluating what are the right conditions for each particular agreement.

We have reviewed how the current real estate asset market works in Colombia.
Even though there are no for-rent multifamily developments, it is right to assume that the asset market will expect similar results to the ones the industry is providing with the rest of the asset classes. The main challenge will be to persuade different players to trust this type of projects and to build almost from scratch the expertise needed to design, promote, finance and manage these properties.

4. LEGAL AND REGULATORY FRAMEWORK[22]

More than any of the challenges to the rental sector already discussed, the legislative framework in Colombia was credited by most of the developers and fund managers interviewed for this thesis, as the foremost factor dissuading the industry from pursuing rental housing developments. Excessive regulation has long been a gripe for residential builders in Colombia. As is characteristic of most Latin American nations, for example, the

[22] This section is mostly based on Luis Gil's "Renting in Colombia" - 2015

legislation and the judiciary system in Colombia favors tenants' rights over landlords' rights, making it difficult and expensive for landlords to evict tenants and repossess their properties. Nonetheless, we will show in this chapter that many of these risks can be assessed and managed with proper planning and the right insurance.

LAW 820 OF 2003

As a result of the predominant market share that rental tenure has, Colombia has taken a much more serious look at the issue of rental housing than have most nations in the Latin American region, and it benefits from a robust legal framework regulating rentals in that regard. With growing concern over the state of Colombia's rental sector, the national government instituted Law 820 of 2003, commonly known as the Renters' Law. This law is comprehensive, and its passing has placed Colombia "in the vanguard of rental legislation" (Camargo Sierra 2015, 275) in Latin America. Being the best of a bad lot, however, does not necessarily make it good. While many aspects of Law 820 of 2003 are laudable, the Law did not address correctly some crucial issues.

The law is broad, covering everything from allowable rents, and dispute resolution to what sort of companies may build social-interest rental housing and tax incentives for investing in such projects. As a motivation to invest in social-interest rental housing, the law provides for a tax exemption on rental income derived from the development of such properties for ten years. The Law further aims to address the two most common problems in the rental housing market in Colombia: the period it takes a landlord to reclaim her property and the problems generated by the landlord having to take over payment for public services neglected by a tenant. The main practical takeaways derived from the Renters' Law, as identified by Torres (2012) and Arbeláez, Steiner, et al. (2011), are as follows:

- Fiscal incentives are created, intended to spur the construction of new social-interest rental housing, mainly by way of tax exemptions. Only a couple or projects have used these incentives.
- Authorized the creation of Real Estate Investment Funds in order to develop the real estate business associated with social-interest rental housing. To date, no such fund has been established in Colombia.

- The process of property restitution for the landlord is accelerated.
- The establishment of a policy toward public services whereby the lease contract may be terminated and the unit reinstated to the landlord if a tenant fails to comply with obligations derived from utility contracts, given certain caveats. Previously, this would not necessarily constitute a reason for termination, and the landlord would often be on the hook for unpaid utility bills on the property.
- Overall, the grounds for termination of a rental contract became more flexible.
- Rent increases may not exceed 100% of the increase in the IPC (Consumer Price Index) from the previous year. This is up from a maximum increase of 90% of IPC established in 1985.
- Monthly rents may not exceed 1% of the commercial value of the rental unit. The maximum commercial value allowable to determine rents shall not exceed 2 times the cadastral value, as determined by the municipality.
- Landlords can terminate rental contracts at will without reason, insofar as the contract has been valid for a minimum of four years and the landlord pays a severance equivalent to 1.5 months of rent to the tenant. Previously, a tenant could choose to extend a lease indefinitely with a landlord having little recourse.
- Security deposits as a condition for the instatement of a lease are prohibited.

Law 820 of 2003 establishes a much more balanced framework which favors the tenant less blatantly than previous rental legislation. The scales, however, still tip in tenants' favor in important ways. For the most part, most of the challenges are workable. But there are two issues that present the greatest challenges of all, that is: the restitution period for a rental unit from a bad tenant and the stringent rental rate regulation.

REPOSSESSION

On the face of it, Law 820 of 2003 dramatically improves the restitution period of a rental unit when a tenant has stopped paying rent and suggests a one-year restitution period. But,

the letter of this law must be put into context within the judicial system in which it resides, a system that still tends to weigh heavily on the side of tenants. The restitution period of a unit can still take many years, mainly because it is necessary to get a judicial order to carry out an eviction. In fact, the average total duration of a repossession process is 500 days, the highest in Latin America[23]. But even though it is evident that civil disputes can take long, the following findings are worth mentioning:

a.) Although there is no available research to evaluate the real risk of default and repossession, the general opinion of brokers and specialized law firms, is that it is not high. The quality of tenants is thoroughly evaluated before the contractual relationship. In most cases two co-signers, who share the same responsibilities as the tenant, are required for the lease. This significantly reduces the risk of default. Even in default, tenants will normally either negotiate some sort of agreement with the landlord or hand over the apartment.

b.) The civil code establishes that the tenant has to demonstrate that he is not in default in order for the judge to even listen to its arguments. Also, he is not exempt of the rent once the process has started and most provide proof that he is indeed paying. This means that in the worst-case scenario of a long judicial dispute, the tenant will need to pay his rent to be heard in court.

c.) If a tenant in default cannot provide proof of rental payments, he will be evicted in a process that is more expedite and that can take from 6 to 8 months on average. Delays in the majority of these cases are experienced in the physical process of repossession, which is administrated by the local police force.

But no matter if it is a minor or severe potential hazard, there is an available option in the country that completely mitigates the risk of endless repossession processes. Colombia currently has the most sophisticated rent insurance product in Latin America. Both insurance companies and "afianzadoras[24]" have developed income insurance schemes tailored for the rental market. Usually, the brokerage firms who rent and manage the apartments for individual landlords will try to protect the property-owners interests by

[23] Source: Courts: The Lex Mundi Project – National Bureau of Economic Research

[24] "Afianzadoras" are another type of insurance companies approved by Law in Colombia. They guarantee the contractual obligations of a party in an agreement. Although they a different regulation than pure insurance companies, the product they offer for the rental market is practically the same.

including these insurance packages in their deals. The market rate for brokerage firms of this type of product is around 2.5% of annual rent and management fee. In return, the landlord is entitled to a maximum of 36 months coverage of rent, management fee and utilities.

Insurance companies work very efficiently and will start disbursing overdue payments after the first month of default. From that moment on, the burden of conciliation proceedings, extra-judicial settlements and in the worst cases, judicial disputes, befall on the insurance company. Also, from day one, they will handle the assessment process of new potential tenants. They have broad experience in knowing what to look for when trying to identify high-quality leaseholders, which substantially reduces the default risk.

In conversations with Juan Dario Guzman, commercial director of Unifianza - one of the leaders in proving "fianzas" (rental insurance) in the country, with more than 11,000 contracts in Bogota – he acknowledged that the majority of default cases are settled before trial. He also insisted that the key of a healthy debt portfolio relies on an exhaustive analysis during the pre-contractual. Nonetheless, when tenants default - and they will - they have a whole team that specializes in conciliation procedures and settlements.

Although including this cost of insurance in the financial model will hurt the returns for multifamily developments, it is a perfect way to quantify the default risk and mitigate it from the beginning. Additionally, it is probably right to assume that with a complete for-rent building or even better, a portfolio of properties, a property manager should be able to negotiate a better rate from insurance companies.

RENTAL RATE REGULATION

Limiting annual rent increase to changes in the IPC and setting a cap of 1% of the commercial value of the rental unit are both rigorous regulations that limit the flexibility of a landlord to escalate rents in an economic upturn.

1% Cap on rents

Even though the 1% cap presents a limit on the rent a landlord can charge, we have seen

(see page 33) that monthly rental yields in Bogotá are in between 0.5 to 0.7% of the property's commercial value. Hence, it is very unlikely that a landlord will face a potential income loss as a consequence of this cap. Furthermore, is important to mention that the Law does not explicitly restrict additional charges to the tenant for other concepts like use of common spaces or parking.

Rent Increase

The IPC growth constraint for price increases should be the main concern for future developers and asset managers regarding legal framework and regulation. This restriction represents no real appreciation for rental income during lease terms. It is essential though, to take into account that the average length of a lease is around 2 to 3 years long, depending on the city[25]. Therefore, during that period of time, the rent increase will be limited to the IPC. This also means that these rental communities can expect to have a significant turnover rate; 33% to 50% of the units would get re-leased each year. Though this poses a challenge from an administrative, commercial and marketing standpoint, it also creates the opportunity to gain from market upturns by negotiating better rent rates and contractual conditions for new leases. As a result, rent appreciation above inflation for the total property is possible but demands continued planning and watchful eyes from property and asset managers.

WHAT TO EXPECT IN THE FUTURE

There are many voices in the country asking for a revision of the Renters' Law: an amendment that can balance tenants and landlords' rights, especially on rental rate regulations. A revision to the law could allow for disputes between landlords and tenants to be addressed via mediation or arbitration. Such an action could significantly reduce the time it takes a landlord to repossess his rental unit if a tenant has refused to pay rent.

The present Renters' Law can also be improved by providing the framework for the participation of private real estate investment funds. Although the letter of the law provides the structure for the creation of such funds dedicated to the development of social-interest

[25] Source: CENAC - "Encuesta Nacional de Calidad de Vida del DANE de 1997". Colombia has an average lease length of 2.7 years while Bogotá has an average of 3.1 years.

rental housing, it fails to make mention of funds targeting mid and high-income properties. In addition to these measures, the Law should be revised to allow for the collection of security deposits on the part of landlords, which are not allowed today. These deposits provide an important safety net to landlords, protecting them to a degree to damage to the unit done by their tenants. Additionally, such a deposit provides a partial safety net if a tenant stops paying their rent.

The current government is making a considerable effort on understanding how social rental housing can benefit from an improved regulatory and legal framework. The Housing Ministry and the department of National Planning are leading a group of consultants that are trying to figure out the right approach to affordable-housing for rent in the country. And even though the main focus of these studies is on low-income housing, many other important industry members, as mentioned on Chapter 1 (see pages 10 and 11), are pursuing a more holistic review of the Law. It is most likely that with the present atmosphere, Colombia will join other countries like Uruguay and Mexico in enacting more favorable regulations in the near future.

5. FINANCIAL ANALYSIS

As it was mentioned before, there are no available multifamily properties in Colombia to buy as a whole, with few exceptions. Therefore, the financial analysis presented in this chapter will focus on a potential development venture that attempts to be a reflection of what an average deal for a mid-high to high-income housing property would look like in Bogota. Although the model cannot produce a definitive picture of what to expect in a multifamily project, it illustrates clearly how variations in future ventures could be substantial. Its primarily objectives are to inspire interest from the real estate industry in these types of projects and to encourage developers and fund managers to dive into potential opportunities.

ASSUMPTIONS

A real-life site and design feasibility study were used. It is a 1,929 square meters lot located in Chicó (Chicó Navarra neighborhood), one of the most exclusive districts of Bogotá. This location has many benefits for a rental community. It is close to main roads (Autopista Norte, Calle 100, Carrera 19, Carrera 15), and Bogotá's major commercial and business hubs (Unicentro, Parque de la 93, and others). Based on a real architectural project for the site and the rental market research summarized in the previous chapters, the following assumptions for the model were made:

Development

- A 24-floor high-rise building with average floor plates of 819 square meters. 5,100 square meters of parking. 157 units with an average of 88.4 square meters per unit. A FAR of 10.6 was achieved[26].

- 25,618 square meters of total build area and 13,880 square meters of net rentable area. Total efficiency (net rentable space versus gross build space ratio) of 54%.

- 33 months for permitting and construction of the building.

- Construction loan for 50% of total development costs with an 8.5% interest rate. Only interest payments during construction and until the project is stabilized[27]. Equity contributions go first.

- Most of the development budget was taken from a for-sale analysis for the same property, removing costs that will not be encountered in a for-rent project (costs related with marketing and sales especially). The following page shows a summary of the development budget:

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[26] Bogotá's zoning regulation and entitlement process has experienced frequent changes in the recent months in pursuit of a denser, taller city. One of them, the most important one, is the possibility for developers to build high-rises in big enough pieces of land, which was not an option before. In order for developers to get additional FAR, they have an obligation of either contributing free public space or paying a fee to the municipality.

[27] Typical construction loans have an interest rate of DTF + 4% and only charge interests during construction.

Lease-Up

- Initial rent per square meter of 41,000, which is the average of all available rental apartments[28] in Chico Navarra posted in www.metrocuadrado.com, the biggest leasing marketplace in Colombia.

- Lease-Up period of one year after construction – 8.3% per month

Operations

- 5% of annual rent growth[29].

- 33% of annual turnover rate[30]. 7% vacancy rate once stabilized.

- Annual property tax will be 0.95% of cadastral value[31].

- Property management and trust management fees of 4.5% of effective gross income.

- 1-month rent of leasing commission for any new leases signed. Annual capital reserves of one million pesos (USD $377) per unit.

- 15-year permanent loan with a 50% Loan to Value ratio and a 9.5% interest rate. Disbursement in the end of the lease-up period. Pays off the construction loan and any remaining capital is claimed as equity.

- Exit Cap Rate of 8.0%[32] in year 7 after construction with 3% of sale costs.

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[28] The market study was limit to 50 to 120 m^2 apartments in properties that have been delivered recently. The rate does not include the building administration fee, which will usually be charged separately and that is around 15% of the rent.

[29] Average IPC of the last five years has been 3.7%. It is assumed that with rent increases in annual turnovers, an additional 1.3% can be achieved. There are no reliable rent price indexes in Colombia and the information available shows a wide range of results for the last decades in rent prices. Therefore, although it is a known fact that rents have increased in the past, it remains still a challenge to forecast future growth.

[30] As mentioned at the end of Chapter 4, Bogotá has an average lease length of 3.1 years.

[31] As of today, this is the approved rate for expensive strata 6 properties in Bogotá. It is assumed that the monthly potential gross income versus cadastrian value ratio is 0.8%.

[32] Even though current cap rates for other asset classes can be higher than an 8%, it has been shown that Multifamily should have a lower risk profile and has historically demonstrated to trade at lower cap rates than the rest of properties in developed real estate markets. Also, current net yields for individual residential properties for-rent are around 5% to 7%.

	Line Item Cost	Cost Per Sq.Mt. of Gross Area	Cost Per Sq.Mt. of Net Area	% of Total Cost
SITE ACQUISITION:				
Land	15,000,000	586	1,081	20.8%
Municipal Added Value Tax[33]	5,517,997	215	398	7.6%
Legal (Closing, Title, Trust)	44,250	2	3	0.1%
Total Site Acquisition	**20,562,247**	**803**	**1,481**	**28.5%**
HARD CONSTRUCTION COSTS:				
Constructions Costs	41,516,760	1,621	2,991	57.5%
General Contractor Fee (7%)	2,906,173	113	209	4.0%
Total Hard Construction Costs	**44,422,933**	**1,734**	**3,200**	**61.5%**
SOFT DEVELOPMENT COSTS:				
Architectural	757,260	30	55	1.0%
Engineering & Other Fees	493,390	19	36	0.7%
Building Permit	1,284,436	50	93	1.8%
Builder's Risk Insurance	91,881	4	7	0.1%
Utilities Fee	167,312	7	12	0.2%
Legal	100,000	4	7	0.1%
Real Estate Taxes	171,360	7	12	0.2%
Real Estate Trust	217,500	8	16	0.3%
Advertising & Marketing	250,000	10	18	0.3%
Development Fee	2,200,000	86	159	3.0%
Contingency	1,500,000	59	108	2.1%
Total Soft Development Costs	**7,233,139**	**282**	**521**	**10.0%**
TOTAL DEVELOPMENT COSTS	**72,218,319**	**2,819**	**5,203**	**100.0%**

Table 12: Development Budget – Values: Thousand COP

[33] In this case, it is assumed that the developer does not contribute with public space in order to get the 10.6 FAR. Hence, a number of cash contributions are required to be paid to the municipality.

RESULTS

The results for the cash flow analysis of the base model for the project with the previous suppositions and assuming that the project starts on January 2016, were as follows:

TIMELINE	BEG DATE	DURATION	END DATE
SITE ACQUISITION			Jan-16
DESIGN & PERMITTING	Jan-16	8	Oct-16
CONSTRUCTION	Oct-16	24	Oct-18
LEASE-UP	Oct-18	12	Oct-19
REVERSION	Oct-19	72	Oct-25
TOTAL YEARS	**9.7**		

FUNDING	AMMOUNT
EQUITY	36,109,160
CONSTRUCTION LOAN	36,437,831
PERMANENT LOAN	41,130,815

	GROSS YIELD (PGI)		NET YIELD (NOI)	
INITIAL YIELDS	MONTH	YEAR	MONTH	YEAR
YIELD ON COST	0.96%	11.5%	0.76%	9.1%
YIELD ON VALUE	0.84%	10.1%	0.67%	8.0%

RETURNS	IRR	Multiple
UNLEVERED	10.9%	2.1
LEVERED	11.8%	2.5

Table 13: Summary of results for base scenario analysis – Values: Thousand COP

Financial returns on the project show the challenges that these for-rent developments face in the country to achieve the best balance between initial yield on cost, interest rates and cap rates. With a net yield on cost of 9.1% for the first year the property is fully leased, and a 9.5% interest rate for the permanent loan, most of the returns of the project rely on the rental growth that the property manager can generate and that the market can absorb. Also, exit cap rates play an important part in the equation.

While cap rates used for trading individual for-rent properties are currently around 5% to 7% as shown at the end of Chapter 2, financial institutions looking for stabilized properties are professional investors who will underwrite their acquisitions with higher expectations. Shifting from less sophisticated investors (individual mom and pop buyers) to specialized corporations creates a gap in expected returns between for-sale and for-rent projects. In order to create a well-functioning institutional rental market, the development's sponsors and all stakeholders will need to close this gap with time.

An internal rate of return of 11.8% can arguably be lower that what is expected from a development venture. Nonetheless, we need to consider that these projects are aimed for a risk-adverse investor with a long-term perspective that is satisfied with a spread versus a 10-year treasury bond of around 400 basis points. Also, as presented before, these returns of around 11% to 12% are what two of the most important funds and the single public REIT have reported to their investors in the past 5 years. Developers and property managers that aspire to promote for-rent multifamily real estate will have to share this long-term view and strive to optimize design and operational expenses.

The following page shows the annual results for the cash flow analysis during the development and stabilized phase and finally in the reversion year.

	TOTAL	1	2	3	4	5	6	7	8	9	10
Total Land	20,562,247	11,517,997	6,044,250	3,000,000	-	-	-	-	-	-	-
Total Hard Costs	44,422,933	7,403,822	22,211,467	14,807,644	-	-	-	-	-	-	-
Total Soft Costs	7,233,138	3,578,447	2,020,966	1,633,725	-	-	-	-	-	-	-
Total Development Costs	**72,218,319**	**22,500,266**	**30,276,683**	**19,441,370**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Potential Gross Income	151,077,233	7,001,265	7,351,328	7,718,894	8,104,839	8,510,081	8,935,585	9,382,364	9,851,482	10,344,056	10,861,259
Occupancy		0.0%	0.0%	7.1%	77.9%	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%
Effective Gross Income	**119,295,247**	**-**	**-**	**545,883**	**6,311,521**	**7,914,375**	**8,310,094**	**8,725,599**	**9,161,879**	**9,619,973**	**10,100,971**
Operating Expenses	**18,936,638**	**-**	**-**	**593,689**	**1,319,094**	**1,198,290**	**1,258,205**	**1,321,115**	**1,387,171**	**1,456,529**	**1,529,356**
NOI	**100,358,609**	**-**	**-**	**- 47,806**	**4,992,427**	**6,716,085**	**7,051,889**	**7,404,484**	**7,774,708**	**8,163,443**	**8,571,615**
Leasing Commissions	4,017,226	-	-	217,910	474,541	234,027	245,729	258,015	270,916	284,462	298,685
Capital Reserve	1,936,333	-	-	52,333	157,000	157,000	157,000	157,000	157,000	157,000	157,000
Capital Expenditures	**5,953,559**	**-**	**-**	**270,243**	**631,541**	**391,027**	**402,729**	**415,015**	**427,916**	**441,462**	**455,685**
Resale Price	110,687,578	-	-	-	-	-	-	-	-	-	110,687,578
Selling Costs	3,320,627	-	-	-	-	-	-	-	-	-	3,320,627
PBTCF	**80,272,884**	**- 22,500,266**	**- 30,276,683**	**- 19,759,419**	**4,360,886**	**6,325,058**	**6,649,161**	**6,989,469**	**7,346,792**	**7,721,982**	**113,415,905**
Construction Loan	36,437,831	-	16,667,789	19,770,041	-	-	-	-	-	-	-
Interest	5,036,579	-	360,193	2,517,286	2,159,100	-	-	-	-	-	-
Repayment	41,474,410	-	-	10,622	41,463,788	-	-	-	-	-	-
Permanent Loan	41,130,815	-	-	-	41,130,815	-	-	-	-	-	-
Debt Service	30,650,362	-	-	-	1,679,472	5,038,416	5,038,416	5,038,416	5,038,416	5,038,416	3,778,812
Principle	10,446,403	-	-	-	435,415	1,388,139	1,520,013	1,664,414	1,822,533	1,995,674	1,620,216
Interest	20,203,959	-	-	-	1,244,057	3,650,276	3,518,403	3,374,002	3,215,883	3,042,742	2,158,596
Repayment	30,684,412	-	-	-	-	-	-	-	-	-	30,684,412
EBTCF	**55,032,346**	**- 22,500,266**	**- 13,608,894**	**-**	**2,348,442**	**1,286,642**	**1,610,745**	**1,951,053**	**2,308,376**	**2,683,566**	**78,952,681**

Table 14: *Summary of annual cash flow analysis*

SENSITIVITY ANALYSIS

The following table shows how would adverse and favorable conditions impact project results:

	PESSIMISTIC	BASE	OPTIMISTIC
Hard Costs	+5.0%	0.0%	-5.0%
Initial Rent	-5.0%	0.0%	+5.0%
Rental Rate Growth	4.0%	5.0%	5.5%
Exit Cap Rates	8.5%	8.0%	7.5%
Interest Rate - Perm Loan	10.0%	9.5%	9.0%
	RETURNS		
Yield on Cost (NOI)	8.1%	9.1%	10.1%
Unlevered IRR	7.7%	10.9%	13.4%
Levered IRR	6.7%	11.8%	16.2%
Equity Multiple	1.7	2.5	3.2

Table 15: Optimistic and Pessimistic scenario analysis

To further comprehend how changes in the space and asset markets would affect the financial performance of typical developments, the following sensitivity tables show changes in IRRs with multiple scenario variations:

		RENT GROWTH						
		3.5%	**4.0%**	**4.5%**	**5.0%**	**5.5%**	**5.6%**	**6.0%**
CAP RATE	**9.5%**	6.2%	7.2%	8.2%	9.2%	10.2%	10.4%	11.2%
	9.0%	7.0%	8.0%	9.0%	10.0%	11.0%	11.2%	12.0%
	8.5%	7.8%	8.8%	9.8%	10.9%	11.9%	12.1%	12.9%
	8.0%	8.7%	9.7%	10.8%	11.8%	12.8%	13.0%	13.8%
	7.5%	9.7%	10.8%	11.8%	12.9%	13.9%	14.1%	14.9%
	7.0%	10.9%	11.9%	13.0%	14.1%	15.1%	15.3%	16.2%
	6.5%	12.1%	13.2%	14.3%	15.4%	16.5%	16.7%	17.5%

		REVERSION YEAR (AFTER CONSTRUCTION)						
		3	4	5	6	7	8	9
CAP RATE	9.5%	3.2%	5.6%	7.2%	8.4%	9.2%	9.8%	10.3%
	9.0%	5.0%	7.0%	8.4%	9.3%	10.0%	10.5%	10.9%
	8.5%	7.1%	8.6%	9.6%	10.3%	10.9%	11.2%	11.5%
	8.0%	9.2%	10.3%	11.0%	11.5%	11.8%	12.1%	12.2%
	7.5%	11.6%	12.2%	12.5%	12.7%	12.9%	13.0%	13.0%
	7.0%	14.2%	14.2%	14.2%	14.1%	14.1%	14.0%	13.9%
	6.5%	17.1%	16.5%	16.1%	15.7%	15.4%	15.1%	14.9%

		PERMANENT LOAN TERM						
		10	13	15	18	20	23	25
INTEREST RATE	8.8%	12.0%	12.1%	12.1%	12.2%	12.2%	12.2%	12.2%
	9.0%	11.9%	12.0%	12.0%	12.1%	12.1%	12.1%	12.1%
	9.3%	11.8%	11.9%	11.9%	11.9%	12.0%	12.0%	12.0%
	9.5%	11.7%	11.8%	11.8%	11.8%	11.9%	11.9%	11.9%
	9.8%	11.6%	11.7%	11.7%	11.7%	11.7%	11.8%	11.8%
	10.0%	11.5%	11.6%	11.6%	11.6%	11.6%	11.6%	11.7%
	10.3%	11.4%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%

Table 16: *Sensitivity analysis tables - Changes in Levered IRR. Table 1: Rent Growth vs. Cap Rate. Table 2: Reversion Year vs. Cap Rate. Table 3: Permanent loan Term vs. Interest Rate.*

Finally, in order to understand which of the major variables influence the expected returns the most, the next table presents the IRR spread produced by negative and positive fluctuations in our base case. Although this can arguably be a myopic analysis because it only accounts for changes in one variable, ignoring possible effects in the rest of them, it gives us a suitable notion of where main opportunities of potential upsides or downsides are.

Variable	ASSUMPTION			LEVERED IRR			IRR Spread
	Base	-	+	Base	-	+	
Hard Costs	0%	+5.0%	-5.0%	11.8%	11.1%	12.6%	1.5%
Initial Rent	0%	-5.0%	+5.0%		10.5%	13.1%	2.6%
Annual Rent Growth	5.0%	4.5%	5.5%		10.8%	12.8%	2.0%
Vacancy	7.0%	10%	5.0%		10.9%	12.4%	1.5%
Lease-Up Speed per Month	8.3%	5.0%	12.0%		11.2%	12.1%	0.9%
Property Management Fee	4.0%	5.0%	3.0%		11.5%	12.1%	0.6%
Permanent Loan Interest Rate	9.5%	10.0%	9.0%		11.6%	12.0%	0.4%
Exit Cap Rate	8.0%	8.5%	7.5%		10.9%	12.9%	2.0%

Table 17: Levered IRR results and spread with changes on major-impact assumptions

From the previous tables we can conclude that, in order to increase expected returns, multifamily sponsors should focus on:

- **Initial Rent**

It is all about the yield to cost in the development phase. The developer has to innovate and create value by designing more efficient projects with higher rentable to total area ratios. Also, a design tailored for the rental community can include commercial uses and others that could contribute to boost the starting income. Finally, it may be crucial to convince potential tenants that a rent premium should be paid for a better planned, designed and managed property that targets exclusively their needs.

- **Rent growth (or operational savings)**

Returns are backed by NOI growth. By either achieving higher income streams or reducing operational expenditures, a property manager can obtain higher net returns. An extra 0.5% of annual rental growth represents an additional of 100 basis points for the expected IRR. Average IPC of the last five years has been 3.7%. This means that in order to create additional growth, the leasing strategy should focus on getting the most out of negotiating rental rates for new leases. Lastly, operational expenses should be analyzed as early as possible. In the design phase, the building should be tailored to minimize security, utilities and maintenance expenses.

- **Capital Markets**

Interest rates for permanent loans and especially cap rates for the disposition of the asset are crucial to accomplish return targets. Although one can argue that the debt and equity real estate market will have an exogenous behavior, it is clear that with a young and fresh real estate capital market emerging, the industry faces and will continue to face an important evolution towards a risk and return equilibrium. Hence, developers and funds should attempt to find cheaper sources of capital for a presumably safer asset class. Lastly, we should consider that splitting the property and selling it into separate dwellings would result in lower cap rates and better returns. Nonetheless, it is most probable that this arbitrage opportunity will cease to exist once the market finds its balance.

CONCLUSIONS

The main goal of this thesis is to create awareness of an, until now, overlooked opportunity for promoting for-rent multifamily projects in Colombia. Although it does not answer all of the uncertainties that a developer, fund, lender or policymaker could have, it seeks to create consciousness over the unique potential for an already-strong rental market in a country with a fast-emerging institutional real estate industry thirsty for new and ingenious ventures. It also aims to break the old pre-conceptions regarding for-rent housing developments that potential stakeholders have.

With the highest rental tenure in Latin America and favorable economic and demographics trends, Colombia has an optimum mix of space-market conditions for residential rental projects. Also, the significant inflow of capital from institutional real estate should help foster these new developments. As the real estate capital market matures, the diversity of asset classes will also continue to do so. In established markets, like the US, rental housing developed by the private sector is valued as a less risky asset class that accounts for 13.8% of REIT's allocations.

From a regulatory standpoint, the actual legal framework presents challenges than can be addressed with planning and proper insurance. Nonetheless, the rigorous rental rate

regulation remains one of the obstacles that will need to be overcome. Fortunately, many voices are being raised to influence housing policies in favor of rental housing by legislation and resources, which should hopefully come mainly from the central government.

In the last chapter, a financial analysis is presented that attempts to exemplify what to expect from a typical for-rent multifamily development in Bogota. Returns for a 10-year project are in the 11 to 12 percent range. Nonetheless, whoever is interested in contributing in these new undertakings should defy many of the assumptions that were made based on historical trends. New developments should generate unique trends. For investors that would like to explore the rental market with a more reduced exposure, mixed-use developments in conjunction with commercial or hospitality components represent a suitable alternative.

Finally, it is important to separate analyses of the for-rent housing from the for-sale markets. These comparisons are usually made ignoring the different risk and returns profiles of each investment, which should speak to diverse interests. A considerable opportunity lies ahead for specialized funds, developers and property managers that should be undertaken with a yield-oriented approach, complemented with the strong customer service that today's owners and building administrators lack.

APPENDIX

The following tables, assembled by CAMACOL's economics research team based on DANE's 2014 National Households Poll, show additional information of rental households in Colombia and Bogotá.

COLOMBIA

HOME TENURE - COLOMBIA							
Income Level	**Own without mortgage**	**Own with mortgage**	**Rent**	**Usufruct**	**Possession without Title**	**Other**	**Total**
0 a 2 SMLV	2,771,291	138,713	2,525,030	1,679,793	381,199	14,409	7,510,435
2 a 2.5 SMLV	421,460	45,154	511,128	191,077	35,875	3,530	1,208,223
2.5 a 3 SMLV	344,814	38,856	424,742	124,444	21,566	2,364	956,785
3 a 3.5 SMLV	279,062	34,578	324,045	89,465	14,128	3,111	744,388
3.5 a 4 SMLV	210,801	30,743	222,328	60,518	8,498	734	533,622
4 a 8 SMLV	825,419	126,157	682,400	161,974	19,216	4,396	1,819,561
> 8 SMLV	428,406	108,605	242,292	41,336	4,308	862	825,808
Total	***5,281,251***	***522,807***	***4,931,965***	***2,348,606***	***484,789***	***29,405***	***13,598,823***
%	***38.8%***	***3.8%***	***36.3%***	***17.3%***	***3.6%***	***0.2%***	***100.0%***

Table 18: Number of Households by Income Level and Home Tenure - COLOMBIA

Household Size		
Home Tenure	**Median**	**Mean**
Own without mortgage	3.0	3.6
Own with mortgage	3.0	3.5
Rent	3.0	3.2
Usufruct	3.0	3.4
Possession without Title	4.0	3.9
Other	4.0	4.1

Table 19: Household size by Home Tenure - COLOMBIA

Mortgage Payments for Homeowners		
Income Level	**Median**	**Mean**
0 a 2 SMLV	$ 270,000	$ 507,114
2 a 2.5 SMLV	$ 300,000	$ 376,229
2.5 a 3 SMLV	$ 300,000	$ 3,202,224
3 a 3.5 SMLV	$ 350,000	$ 484,748
3.5 a 4 SMLV	$ 450,000	$ 659,322
4 a 8 SMLV	$ 520,000	$ 708,080
> 8 SMLV	$ 1,000,000	$ 1,474,186
Total	$ 420,000	$ 952,976

Table 20: *Mortgage monthly payments for homeowners by Income Level - COLOMBIA*

Monthly Rent by Income Level			
Income Level	**Median**	**Mean**	**SD**
0 a 2 SMLV	$ 200,000	$ 239,311	$ 221,755
2 a 2.5 SMLV	$ 300,000	$ 317,421	$ 206,254
2.5 a 3 SMLV	$ 300,000	$ 337,784	$ 190,119
3 a 3.5 SMLV	$ 350,000	$ 374,894	$ 446,965
3.5 a 4 SMLV	$ 370,000	$ 408,465	$ 234,594
4 a 8 SMLV	$ 450,000	$ 506,698	$ 503,350
> 8 SMLV	$ 750,000	$ 1,007,322	$ 1,093,775
Total	$ 300,000	$ 347,146	$ 416,340

Table 21: *Monthly rent by Income Level - COLOMBIA*

Main Activity of Household Head							
Home Tenure	**Employed**	**Unemployed**	**Studying**	**Homemaker**	**Permanent Disability**	**Other**	**Total**
Own without mortgage	3,055,751	80,054	17,836	1,076,732	87,736	963,142	5,281,251
Own with mortgage	404,652	8,421	1,502	49,606	917	57,708	522,807
Rent	**3,781,304**	**150,468**	**70,711**	**553,863**	**14,352**	**361,267**	**4,931,965**
Usufruct	1,708,541	49,031	23,872	364,297	18,003	184,862	2,348,606
Possession w/out Title	323,745	10,884	1,876	101,839	7,487	38,958	484,789
Other	19,077	280	162	4,772	502	4,612	29,405
Total	***9,293,069***	***299,139***	***115,958***	***2,151,109***	***128,999***	***1,610,549***	***13,598,823***

Table 22: *Number of Households by Main Activity of Household Head and Home Tenure - COLOMBIA*

Household's Head Age		
Home Tenure	**Median**	**Mean**
Own without mortgage	55.0	55.8
Own with mortgage	46.0	46.3
Rent	38.0	40.6
Usufruct	43.0	44.6
Possession without Title	47.0	47.7
Other	49.0	49.8

Table 23: Household's Head Age by Home Tenure - COLOMBIA

Number of Households by Age Range					
Home Tenure	**< 25**	**25 - 40**	**40 - 60**	**> 60**	**Total**
Own without mortgage	64,786	700,003	2,406,138	2,110,325	5,281,251
Own with mortgage	4,010	152,262	299,532	67,002	522,807
Rent	444,864	2,165,953	1,837,517	483,630	4,931,965
Usufruct	194,388	793,694	950,394	410,130	2,348,606
Possession without Title	27,736	131,094	218,880	107,078	484,789
Other	511	6,945	14,889	7,061	29,405
Total	***736,295***	***3,949,951***	***5,727,351***	***3,185,226***	***13,598,823***

Table 24: Number of Households by Home Tenure and Age Range - COLOMBIA

BOGOTÁ

HOME TENURE - BOGOTÁ							
Income Level	**Own without mortgage**	**Own with mortgage**	**Rent**	**Usufruct**	**Possession without Title**	**Other**	**Total**
0 a 2 SMLV	173,192	22,436	515,159	89,120	6,230	7,234	813,371
2 a 2.5 SMLV	53,977	11,872	140,873	22,596	1,646	1,811	232,775
2.5 a 3 SMLV	55,715	10,695	120,637	17,881	1,001	1,820	207,750
3 a 3.5 SMLV	56,936	9,237	99,857	17,404	859	2,842	187,136
3.5 a 4 SMLV	45,394	11,400	76,864	11,858	445	619	146,581
4 a 8 SMLV	223,210	44,171	244,399	48,383	2,335	3,866	566,364
> 8 SMLV	158,253	51,047	106,039	17,471	419	854	334,083
Total	***766,677***	***160,859***	***1,303,828***	***224,713***	***12,936***	***19,047***	***2,488,061***
%	***30.8%***	***6.5%***	***52.4%***	***9.0%***	***0.5%***	***0.8%***	***100.0%***

Table 25 Number of Households by Income Level and Home Tenure - BOGOTÁ

Household Size		
Home Tenure	**Median**	**Mean**
Own without mortgage	3.0	3.3
Own with mortgage	3.0	3.3
Rent	3.0	3.0
Usufruct	3.0	3.0
Possession without Title	4.0	3.6
Other	4.0	4.3

Table 26: *Household size by Home Tenure - BOGOTÁ*

Mortgage Payments for Homeowners		
Income Level	**Median**	**Mean**
0 a 2 SMLV	$ 400,000	$ 553,455
2 a 2.5 SMLV	$ 360,000	$ 387,412
2.5 a 3 SMLV	$ 300,000	$ 9,485,939
3 a 3.5 SMLV	$ 350,000	$ 490,220
3.5 a 4 SMLV	$ 700,000	$ 757,934
4 a 8 SMLV	$ 550,000	$ 739,906
> 8 SMLV	$ 1,200,000	$ 1,769,713
Total	$ 564,000	$ 1,583,130

Table 27: *Mortgage monthly payments for homeowners by Income Level - BOGOTÁ*

Monthly Rent by Income Level			
Income Level	**Median**	**Mean**	**SD**
0 a 2 SMLV	$ 250,000	$ 294,536	$ 259,795
2 a 2.5 SMLV	$ 320,000	$ 350,749	$ 203,364
2.5 a 3 SMLV	$ 350,000	$ 378,330	$ 205,076
3 a 3.5 SMLV	$ 370,000	$ 409,341	$ 274,175
3.5 a 4 SMLV	$ 400,000	$ 448,048	$ 245,973
4 a 8 SMLV	$ 500,000	$ 571,692	$ 345,496
> 8 SMLV	$ 1,000,000	$ 1,294,704	$ 1,410,546
Total	$ 350,000	$ 459,500	$ 548,152

Table 28: *Monthly rent by Income Level - BOGOTÁ*

Main Activity of Household Head							
Home Tenure	**Employed**	**Unemployed**	**Studying**	**Homemaker**	**Permanent Disability**	**Other**	**Total**
Own without mortgage	376,732	10,150	2,403	102,269	3,479	271,644	766,677
Own with mortgage	126,669	1,886	178	12,307	19,819		160,859
Rent	**1,035,358**	**44,492**	**13,559**	**95,027**	**914**	**114,480**	**1,303,830**
Usufruct	148,903	3,872	5,115	31,327	180	35,317	224,713
Possession w/out Title	7,094	208	4,195	1,438			12,936
Other	11,971	167	162	3,776	502	2,469	19,047
Total	***1,706,727***	***60,774***	***25,611***	***246,144***	***24,894***	***423,910***	**2,488,061**

Table 29: Number of Households by Main Activity of Household Head and Home Tenure - BOGOTÁ

Household's Head Age		
Home Tenure	**Median**	**Mean**
Own without mortgage	58.0	58.0
Own with mortgage	45.0	46.0
Rent	37.0	39.7
Usufruct	45.0	46.4
Possession with no Title	51.0	51.2
Other	49.0	52.4

Table 30: Household's Head Age by Home Tenure - BOGOTÁ

Number of Households by Age Range					
Home Tenure	**< 25**	**25 - 40**	**40 - 60**	**> 60**	**Total**
Own without mortgage	2,515	72,689	343,148	348,324	766,676
Own with mortgage	406	52,365	87,890	20,198	160,859
Rent	120,188	608,770	468,104	106,767	1,303,829
Usufruct	13,196	72,457	93,157	45,902	224,713
Possession without Title	420	2,090	6,823	3,603	12,936
Other	232	2,946	10,168	5,700	19,047
Total	***136,957***	***811,318***	***1,009,290***	***530,495***	***2,488,060***

Table 31: Number of Households by Home Tenure and Age Range - COLOMBIA

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