



The University of Chicago Booth School of Business

Written Testimony of

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“Oversight of the Federal Housing Administration’s Multifamily Insurance Program”

Before the House Financial Services Committee  
Subcommittee on Insurance, Housing and Community Opportunity

June 7, 2012

Madam Chairwoman and Members of the Subcommittee;

Thank you for inviting me to testify today. My name is Joseph L. Pagliari, Jr. and I am a Clinical Professor of Real Estate at the University of Chicago | Booth School of Business, where I teach courses on real estate finance, investment and development. A significant portion of my research focuses on various aspects of mortgage finance. However, the viewpoints expressed in this testimony are my own.

I was invited to testify on the multifamily insurance program sponsored by the Federal Housing Administration (FHA), with local HUD (Department of Housing and Urban Development) offices performing most of the loan-underwriting services. In this regard, my testimony will focus on three major areas:

**1. PRICING STRUCTURE | Adverse Selection & Excessive Leverage**

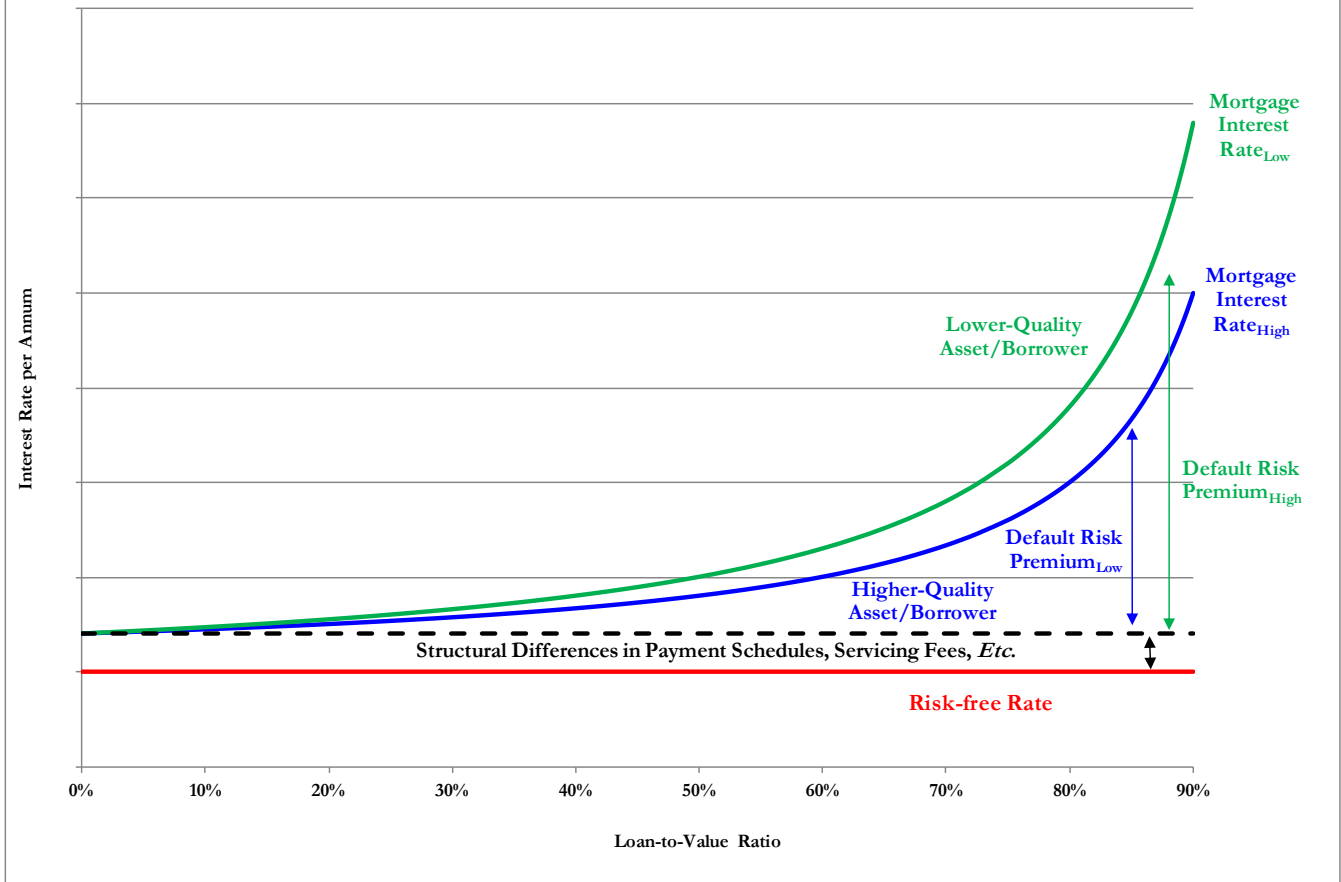
As a starting point, consider that private-market commercial mortgage lenders charge increasingly higher interest rates (quoted as a spread to Treasury bonds of an identical maturity length) as the project’s leverage ratio increases – representing the lender’s compensation for the increasing probability and severity of a borrower default.<sup>1</sup> Now, it is also the case that lender’s estimates of the probability and severity of default additionally vary with the lender’s perception of market-area fundamentals,<sup>2</sup> building quality, borrower reputation, state law (with regard to lender rights), *etc.* – or, more broadly, with perceptions of asset and borrower quality. A simple comparison of lower- and higher-quality assets/borrowers is illustrated in Exhibit 1, where the lender charges the lower-quality asset/borrower a higher interest rate across all loan-to-value (LTV) ratios.

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<sup>1</sup> Unlike single-family mortgage lending, in which lenders must also price the costless option granted the borrower to prepay without penalty, commercial mortgage lenders by and large contract away this costless option by some incorporating form of a prepayment penalty.

<sup>2</sup> This includes socio-economic characteristics, employer concentrations, job growth, state law (with regard to tenant rights), *etc.*

**Exhibit 1: Illustration of Private-Market Loan Pricing  
as a Function of Leverage and Assets/Borrowers of Varying Quality**

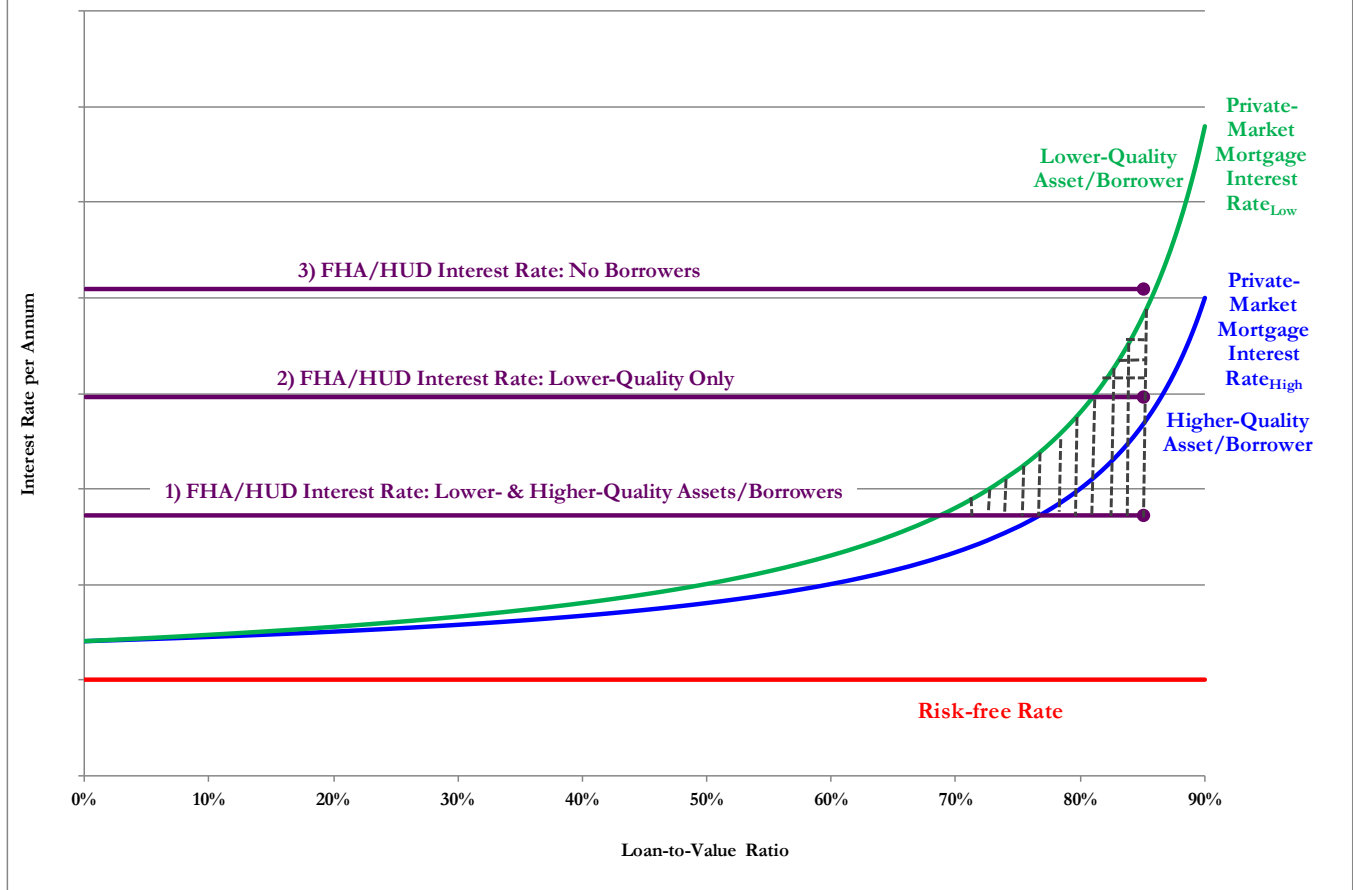


In contrast, the FHA/HUD lending programs (*e.g.*, §221(d)(4), §223(a)(7) and §223(f)) do not vary the interest rate – either by the leverage ratio or by asset/borrower quality.<sup>3</sup> The result of these two very different sets of practices (*i.e.*, the private market attempting to price default probabilities by varying the interest rate while FHA/HUD does not) creates two main effects: adverse selection and excessive leverage. To appreciate these effects, consider Exhibit 2, which attempts to contrast the private-market’s pricing practices<sup>4</sup> with that of FHA/HUD and to illustrate the potential for adverse selection and excessive leverage. In order to illustrate these effects, Exhibit 2 displays three potential FHA/HUD interest rates relative to private-market interest rates: 1) lower- and higher-quality assets/borrowers, 2) lower-quality only and 3) no assets/borrowers.

<sup>3</sup> There are some instances in which HUD will vary items such as the initial and ongoing reserves in response to such characteristics as the LTV ratio or asset/borrower quality. Overall, the changes in reserve requirements tend to have a *de minimus* effect on the effective interest rate (*i.e.*, net loan proceeds – after fees and initial reserves – in comparison to future principal and interest obligations).

<sup>4</sup> In this usage, pricing means the effective interest rate. Further note that such rates – as measured by spreads to Treasury bonds – vary over time.

## Exhibit 2: Private-Market Pricing v. FHA/HUD Pricing and Effects of Adverse Selection and Excessive Leverage



A few additional prefatory comments are in order:

- The FHA/HUD interest rates shown in Exhibit 2 terminate at an 85% leverage ratio; this crudely represents the maximum leverage FHA/HUD will permit.<sup>5</sup>
- Borrowers look to minimize the total costs of indebtedness, for a given leverage ratio and loan maturity. In so doing, borrowers consider more than just the interest rate; other factors to consider include: the degree of recourse liability<sup>6</sup> assumed by the borrower, the term<sup>7</sup> of the loan, the assumability of the loan, prepayment prohibitions and penalties, the speed of loan closing, ease of post-closing/loan-servicing issues, *etc.*

<sup>5</sup> There are, however, differences by lending program, by affordable *v.* market-rate apartments, *etc.*

<sup>6</sup> The §221(d)(4) program essentially provides the borrower with a construction loan which, upon property stabilization, converts to a “permanent” loan. The program requires very little recourse liability to the borrower as compared to private-market construction loans.

<sup>7</sup> The FHA/HUD programs permit maturities of 35 years or more. Currently, there are few – if any – private-market alternatives offering such long-dated maturities.

- Exhibits 1 and 2 describe private-market loan pricing in terms of the leverage ratio. However, lenders also examine the debt-coverage ratio (DCR) and underwrite the loan “size” based upon the lower indicated loan amount as between these two tests (*i.e.*, LTV *v.* DCR).<sup>8</sup> Regardless, the principle is the same: lenders charge increasingly higher interest rates as one or more measures of project leverage increase.

**a. Adverse Selection**

Consider the three rate-setting possibilities<sup>9</sup> shown in Exhibit 2 at the maximum FHA/HUD leverage ratio:

- 1) When the FHA/HUD rate is lower than private-market interest rates, then the FHA/HUD multifamily lending programs attract both lower- and higher-quality assets/borrowers. However, FHA/HUD charges too little – relative to the private market’s consensus view of the appropriate interest rate at that leverage ratio – to both sets of borrowers (as indicated by the vertical distance between the FHA/HUD interest rate and the private-market interest rates to lower- and higher-quality assets/borrowers). This is a form of adverse selection in the sense that this rate-setting regime disproportionately attracts lower-quality assets/borrowers precisely because the FHA/HUD interest rate is much cheaper on a relative basis to the borrower’s private-market alternative.
- 2) When the FHA/HUD rate is lower than private-market interest rate for lower-quality assets/borrowers but higher than the rate for higher-quality assets/borrowers, then the FHA/HUD multifamily lending programs attract only the lower-quality assets/borrowers. Here too, FHA/HUD charges too little – relative to the private market’s consensus view of the appropriate interest rate at that leverage ratio – and experiences some form of adverse selection (in the sense that this rate-setting regime only attracts lower-quality assets/borrowers precisely because the FHA/HUD interest rate which is much cheaper on a relative basis to the borrower’s private-market alternative).
- 3) When the FHA/HUD rate is higher than private-market interest rate for lower-quality assets/borrowers, then the FHA/HUD multifamily lending programs attract no borrowers. In this interest-rate regime, FHA/HUD prices itself out of the market.

So, in all instances in which FHA/HUD is originating loan volume (*i.e.*, in the first two of these three rate-setting regimes), FHA/HUD under-prices – by comparison to the private-market’s consensus view – the likelihood and severity of borrower defaults and, in so doing, disproportionately attracts lower-quality assets/borrowers.

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<sup>8</sup> Which of these two tests produces the binding constraint depends largely on the spread between income yields (or capitalization rates) and interest rates. When income yields are greater than interest rates, then the LTV test tends to be the binding constraint and *vice versa*.

<sup>9</sup> Again, let’s ignore – for purposes of simplicity and without jeopardizing the main results – the other earlier-mentioned dimensions (*e.g.*, recourse liability, assumability, term, *etc.*) by which borrowers determine their all-in borrowing costs. It may, however, be more accurate to view these interest-rate differentials (between the private market and FHA/HUD) as the borrower’s main focus and the starting point from which these other dimensions are examined by the borrower.

### **b. Excessive Leverage**

Exhibit 2 also suggests that myopic borrowers<sup>10</sup> may be persuaded to utilize more leverage in their capital structure; this is possible because the FHA/HUD interest rate does not increase with higher leverage ratios. Consider the case in which the FHA/HUD rate is lower than private-market interest rates for both lower- and higher-quality assets/borrowers. This incremental savings in the borrower's interest rate – as indicated by the vertical dashed lines in Exhibit 2 – may be used by the borrower to increase the amount of borrowing. In turn, the increased leverage increases the probability and severity of the borrower's potential default. The outcome is identical, but the magnitude is smaller, when the FHA/HUD rate is lower than private-market interest rates for lower-quality assets/borrowers but above the private-market interest rates for higher-quality assets/borrowers – as indicated by the intersection of the horizontal and vertical dashed lines in Exhibit 2. [Of course, there is no excessive leverage in the case when the FHA/HUD rate is higher than private-market interest rate for lower-quality assets/borrowers – because, in such instances, there are no borrowers under the FHA/HUD multifamily lending programs.]

### **c. Other Considerations**

There are a number of other considerations that should be raised as well:

- As indicated in Exhibits 1 and 2, the spreads in private-market interest rates (*i.e.*, pricing impacts) due to differences in lower- *v.* higher-quality assets/borrowers are widest when leverage is highest. Consequently, FHA/HUD loans are most often originated at leverage ratios where the appropriate default premium is most difficult to identify and where the costs of misidentification are highest.
- It would be incorrect to interpret Exhibit 2 as suggesting that these rate-setting regimes are static. They are not; indeed, fluctuating FHA/HUD multifamily loan-origination volumes (as a percentage of both private- and public-market apartment lending) over time provide some sense of the dynamic nature of this process.
- It would also be incorrect to interpret Exhibit 2 as suggesting the private-market's consensus view on the pricing of the anticipated probability and severity of the borrower's default is always correct. Clearly it is not; there is plenty of evidence of private-market lenders under-pricing the probability and severity of the borrower's default in, for example, the recent financial crisis. However, this is not an important and pertinent issue: markets are never perfect predictors of future events.
- To this point, I have not drawn much of a distinction between FHA/HUD multifamily loans made to apartment projects with an “affordability” component and to those that do not. From the narrow standpoint of the potential mispricing of the interest rate (and the accompanying default risk assumed by the lender), the “affordability” component matters only in the sense that it may alter characteristics of asset/borrower quality (and, therefore, the appropriate interest rate). Of course, there are broader policy implications; a point I will return to in §2 and §3 of my remarks.

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<sup>10</sup> Myopic in the sense that they ignore the increased riskiness of their leveraged equity position, as they borrow more.

## **2. COSTS | Underwriting Experience & Risks May Be Changing**

### **a. FHA/HUD Underwriting Experience**

The forgoing notions of adverse selection and excessive leverage beg the question as to: Whether or not the private-sector does a better job of pricing (via their interest rate schedule) default risk and of underwriting the asset/borrower than is found with the FHA/HUD experience? This is an empirical question. I have not been privy to such data with regard to the FHA/HUD experience.

Such an analysis, were it to take place, should cover a sufficient length of time (in order to fairly represent the experiences of both sides), should incorporate the incremental costs of FHA/HUD to originate and monitor the loans, and should be careful to control for various effects (*e.g.*, the “vintage year) that may help explain differential performance. However, such an analysis is unlikely to control for all such effects; some priced effects may be either unobservable (*e.g.*, borrowers’ perceptions about ease of loan-servicing issues after origination) or lack of a counterfactual (*e.g.*, the non-recourse aspect of the construction loan embedded in the §221(d)(4) program may have few – if any – counterparts in the private market).

Ultimately, such an analysis may be less than completely conclusive. Nevertheless, it is difficult to imagine that the FHA/HUD credit-loss experience does not suffer as a result of the effects of adverse selection and excessive pricing.<sup>11</sup>

### **b. Risks May Be Changing**

Over the last thirty years, the multifamily market has been the “core” property type<sup>12</sup> that has generally displayed the best risk/return characteristics.<sup>13, 14</sup> Consider Exhibit 3:

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<sup>11</sup> This is not meant to impugn the loan-underwriting efforts of the local HUD offices. To use a playing-card analogy: The HUD offices must play with the cards they’re dealt; they don’t have the luxury of folding.

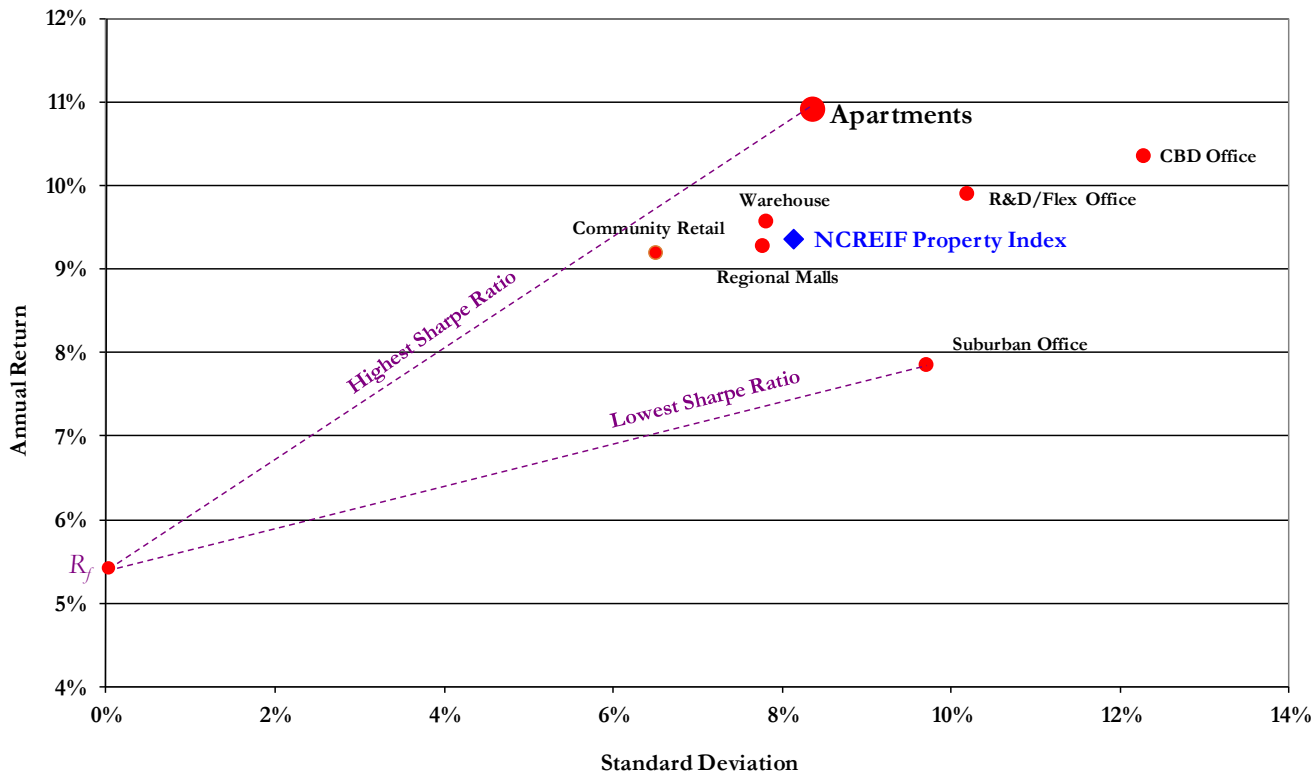
<sup>12</sup> While there is no universally agreed-upon definition, most institutional investors would agree that “core” properties are represented by built and fully leased properties, of the following types: apartments, industrial, office and retail.

<sup>13</sup> Property performance is supplied by the National Council of Real Estate Investment Fiduciaries (NCREIF), a non-profit trade association which quarterly reports the (unlevered) income and appreciation returns from the real properties owned privately by institutional members. At the end of 2011, the NCREIF Property Index comprised approximately 6,500 properties with an aggregate market value of roughly \$275 billion.

<sup>14</sup> The Sharpe ratio (SR) represents a measure of risk-adjusted (financial) performance. The higher the number, the better the performance. It is calculated by subtracting the risk-free rate ( $r_f$ ) from the realized return ( $r_i$ ) and dividing the result by the standard deviation ( $\sigma_i$ ) of the realized return:

$$SR = \frac{r_i - r_f}{\sigma_i}.$$

**Exhibit 3: Historical Performance of the NCREIF Property Index and Various Property Types for the Period 1978 through 2011**



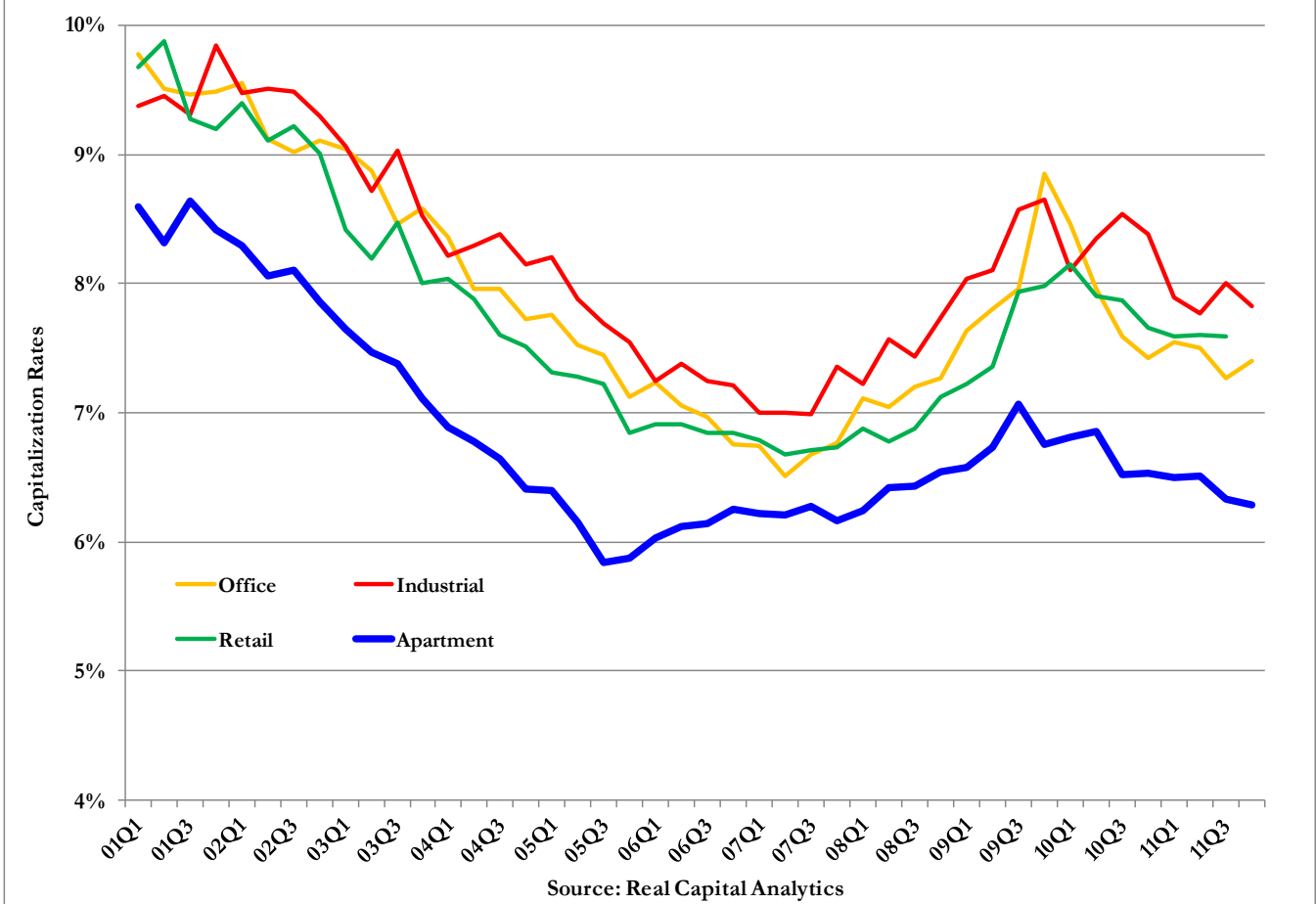
However, there is an old saying that roughly goes as follows: “Something is not a risk until it is one.” Translation: A backward-looking review of performance may lead to unwarranted confidence about future events. Certainly, the US housing market leading up to the 2008 financial crisis is one oft-cited example. While I am not predicting a housing-like crash in multifamily values, there are at least two reasons to be concerned that the past may not be perfect prologue to the future:

- Declining Capitalization Rates – Over much of the last decade (and more), capitalization rates<sup>15</sup> have been lower and declining more steeply for multifamily properties than they have for other core property types. See Exhibit 4. The implication for declining capitalization rates is that future returns may be lower.<sup>16</sup>

<sup>15</sup> Capitalization rates, or income yields, represent the ratio of net operating income (after replacement reserves) divided by property value.

<sup>16</sup> In principle, future asset-level returns  $[E(k_a)]$  are function of current capitalization rates  $\left(\frac{CF_1}{P_0}\right)$ , the growth ( $g$ ) in those cash flows over time and the effects ( $\Delta$ ) of shifting changing capitalization – where an increase in capitalization rates leads to a decline in total returns.  $E(k_a) = \frac{CF_1}{P_0} + g + \Delta$

Exhibit 4: Historical Capitalization Rates by Property Type for the Period 2001-2011



- NIMBY *v.* YIMBY – For some time, I have contended that the apartment investors and lenders have benefitted from the reluctance of many suburban municipalities to encourage multifamily development. The euphemism for this type of behavior is NIMBY: not in my backyard.

Investors and lenders have benefitted from this municipal behavior because it acts as a governor on additions of new supply. And, excessive new supply additions are often the element most detrimental to property/market performance. Even property types (*e.g.*, suburban office) and metropolitan areas (*e.g.*, Austin, Phoenix) with exceedingly strong growth characteristics have – from time to time – succumbed to excessive construction. When new supply starts exceeds demand growth, the markets fall into disequilibrium – causing rents to fall, vacancies to rise and values to tumble.

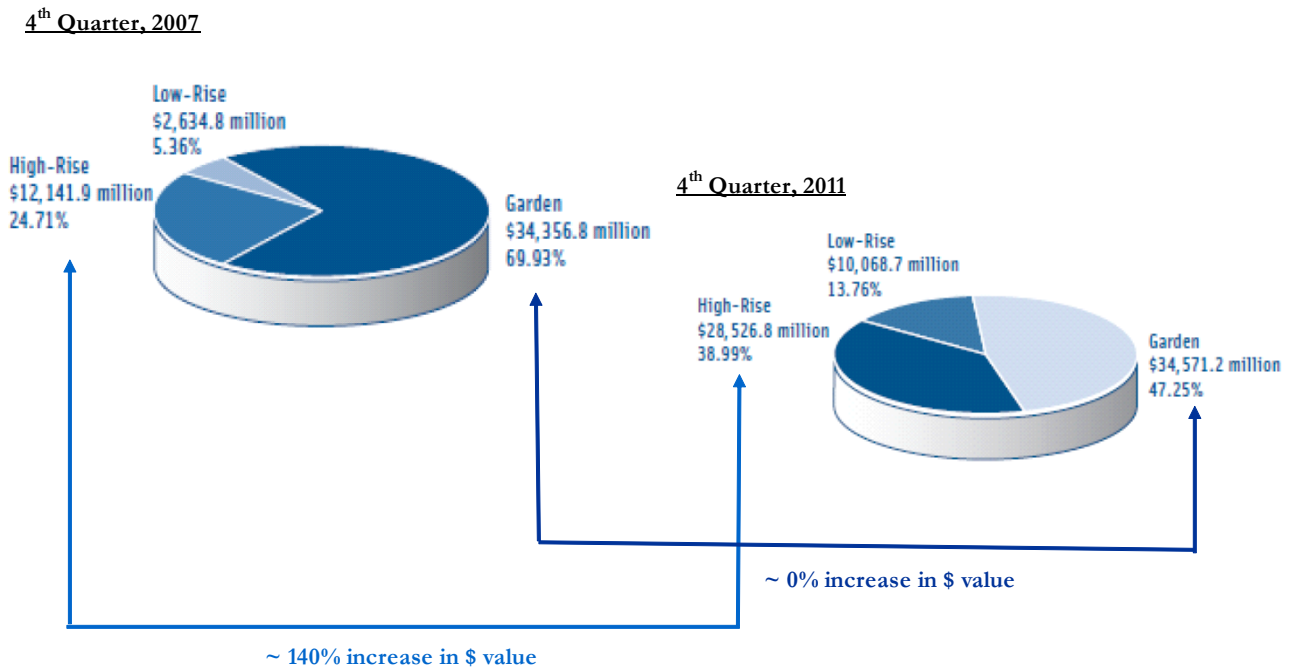
However, in many urban markets, municipal authorities are increasingly in favor of multifamily development: NIMBY in reverse → YIMBY (yes in my backyard). Against a backdrop of the rise of the “24-hour” city and attempts to re-gentrify parts of aging cities, municipal authorities look more favorably on the long-run enhancements to the tax base and short-run additions to (construction-related) jobs that these multifamily projects generate. While these attributes may be laudable goals from the municipalities’



perspective, these increasingly pro-development attitudes of urban officials may pave the way for lower apartment returns as well as greater volatility in those returns.

As one example of the potential swing of the pendulum from apartments located in NIMBY municipalities as compared to those in YIMBY municipalities, consider the changing proportion of garden apartments (as a proxy for NIMBY communities) *v.* high-rise apartments (as a proxy for YIMBY communities) within the NCREIF database. See Exhibit 5. Over just the last four years, the dollar volume of garden apartments have essentially remained flat, while the dollar volume of high-rise apartments has increased by approximately 140%.

**Exhibit 5: Illustration of the NCREIF Index' Changing Apartment Composition**



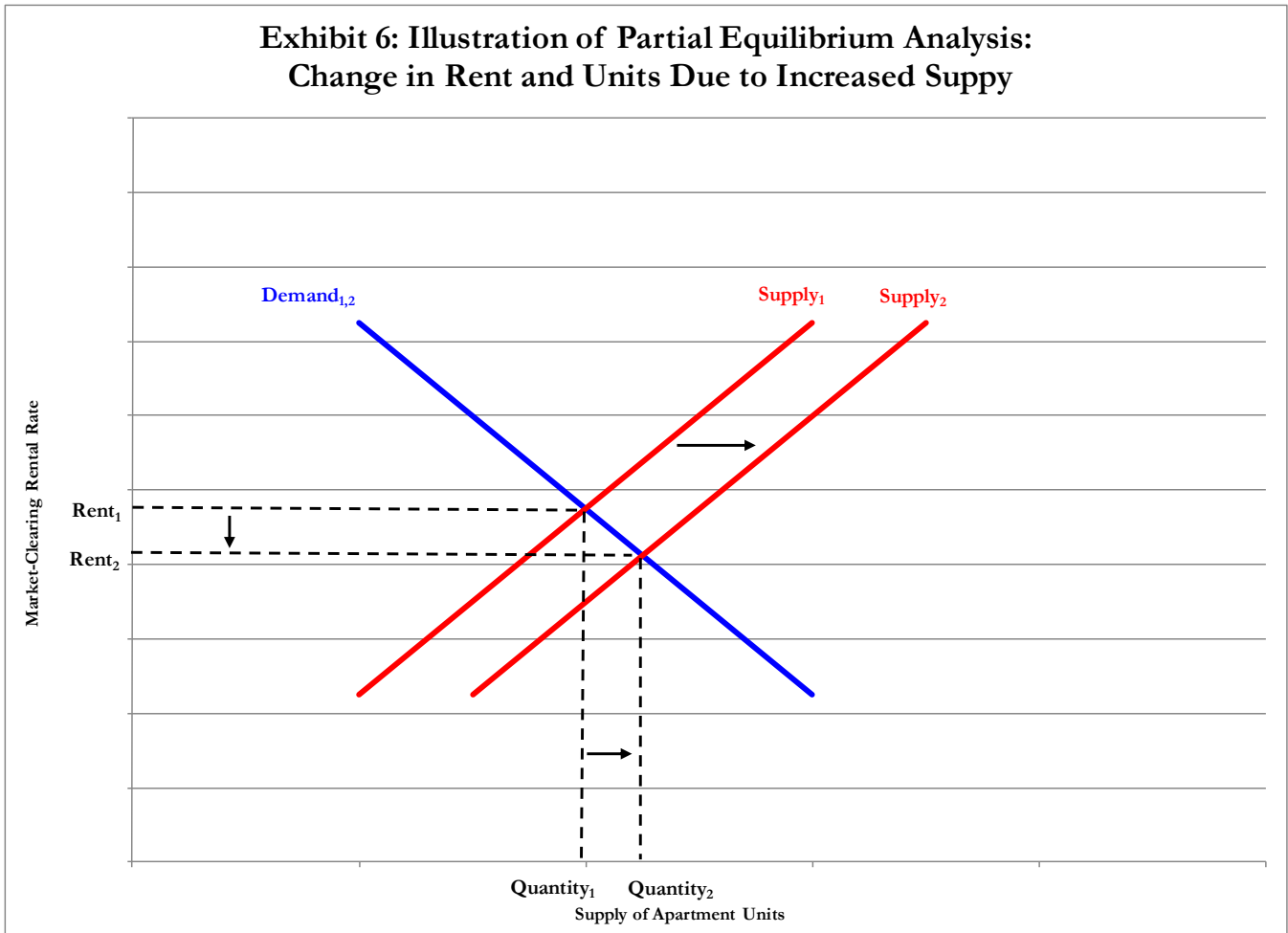
The potential for (unlevered) apartment returns to decrease and/or the volatility of those returns to increase is unwelcomed news for multifamily lenders – as this worsens the prospects for the likelihood and severity of borrower default. Of course, this would be a private-market problem in the absence of the FHA/HUD multifamily lending program (and other government-sponsored lending programs). However, the issues of potentially privatizing profits while socializing losses are also at play here – particularly so when the FHA/HUD multifamily-lending programs are utilized by market-rate apartment communities. Consequently, the adequacy of the FHA/HUD interest rate<sup>17</sup> (including the MIP – mortgage insurance premium – payment) should be viewed in the context of potentially shifting risk/return characteristics for multifamily properties as well as the earlier-mentioned problems of adverse selection and excessive leverage.

<sup>17</sup> At present, the borrower's cost is approximately 125 basis points (bps) over the 10-year Treasury rate (45 bps for MIP, 40 bps for the investor's spread, 25 bps for GNMA and servicing and 15 bps for the "swap" spread) – even though the FHA/HUD loan has a longer maturity date.

### 3. BENEFITS: | Interconnected Markets & Adverse Home Pricing

#### a. The Partial-Equilibrium Case

Of course, the costs of the FHA/HUD multifamily lending program ought to be weighed against the benefits. In a partial-equilibrium setting, the benefits – as illustrated in Exhibit 6 – are familiar to most: An increase in the marginal supply of apartments produces lower rents and expands the number of rental choices (*i.e.*, quantity of apartments available).



Presumably, the increase in the marginal supply of apartment units is due (at least in part) to the existence of the FHA/HUD multifamily-lending programs. Moreover, the lower rents and increased apartment quantity benefits low- and moderate-income households – even when the FHA/HUD multifamily-lending programs extend credit to market-rate apartment properties – despite apartment markets being somewhat segmented along various price points. These benefits are shared because of the interconnectedness of property markets; for example, a reduction in the rental rates of the most-expensive apartment buildings also lowers the rental rates on the less-expensive apartment buildings.

### **b. General Equilibrium | Shared Surplus → Sellers**

However, the partial-equilibrium analysis above ignores other effects which may mitigate the benefits identified above. Among those effects is that the “surplus” illustrated in Exhibit 6 (as the marginal supply of apartments increases) may be shared with sellers in the case of apartment development. That is, the developer is able to pay more for the land (as is often the case in suburban/ex-urban development) or the to-be-demolished building (as is often the case in urban development), because the credit subsidy (due to the lower interest rate – as compared to private-market alternatives) implicit in the FHA/HUD lending programs permits the developer to pay more for the to-be-developed property than would be the case without the subsidy.<sup>18</sup> A similar argument can be made for redevelopment and rehabilitation instances. But perhaps most tellingly of all, the credit subsidy implicit in the FHA/HUD lending programs also permits acquirers of existing apartment complexes to pay a higher price for an existing multifamily property in good condition.

### **c. General Equilibrium | Adverse Effect on Home Prices**

Another potential general-equilibrium effect is the adverse impact on home prices attributable to the increased supply of multifamily properties. Because the homeownership and rental markets are interconnected,<sup>19</sup> there is a substitution effect: for example, a decrease in the rental rates of apartment properties leads to a fall in the value of owner-occupied housing. Without conjecturing about the long-term policy merits of lowering (by FHA/ HUD extending credit and subsidizing the interest rate) home appreciation rates, the short-term effects ought to be considered in light of other governmental efforts currently designed to stabilize and enhance home values.

## **Conclusions**

The very nature of the FHA/HUD loan-pricing practices (*i.e.*, an interest rate that is invariant to the leverage ratio and to asset/borrower quality) is likely to lead to borrowers characterized by adverse selection and excessive leverage. So, what is the credit-loss experience of the FHA/HUD multifamily lending program? There is an empirical answer – were the data available – to FHA/HUD’s past experience. There are, however, also factors on the horizon (*e.g.*, lower apartment income yields and an increasingly pro-development view among municipalities) which might suggest that future multifamily risk/return experience will be less favorable than the past. Naturally, these realized and anticipated costs ought to be measured against the benefits of FHA/HUD extending credit and subsidizing the interest rate for multifamily loans. The benefits are generally thought to be a decrease in rental rates and an increase in the supply of apartment units. However, this “surplus” is at least partially enjoyed by land sellers (in the case of apartment development) and apartment owners/sellers (in the case of existing apartment complexes). Moreover, the lowering of

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<sup>18</sup> The local version of this subsidy/rent-seeking – but just in another form – is when a developer approaches the municipal zoning board for permission to increase the density over what is normally allowed. The developer asserts that he/she cannot economically acquire the land without an increase in the permitted density. If the zoning variance is granted, who is largely the beneficiary? The land seller, because the developer can now afford to pay a higher price (in part because the developer can amortize certain fixed costs over a greater number of units).

<sup>19</sup> Roughly half of the apartment tenants who choose not to renew their lease do so because they are buying a home.

rental rates will – because of the interconnectedness of markets – lower the values of owner-occupied housing. (At least in the short run, this effect may be inconsistent with other government policies designed to improve home values.) Without sifting through all the evidence, it is impossible to say whether the benefits exceed the costs or vice versa – and, in turn, to make judgments about future costs/benefits. This lack of clarity may be an acceptable risk if the FHA/HUD multifamily lending programs were confined to “affordable” apartment communities; however, these lending programs have also been extended to market-rate apartment communities. In this latter regard, it is difficult to see what larger public purpose is being served. There is no “free lunch” and, therefore, FHA/HUD’s involvement in market-rate apartment communities must mean that it is lending on terms more advantageous than such borrowers can find in the private market.