How Do Firms Finance Non-Core Investments? Evidence from REITs *

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Abstract

Using a large sample of commercial property acquisitions by real estate investment trusts (REITs), we show that property investment characteristics affect financing. Specifically, REITs are 4-8% less likely to use secured (mortgage) debt when investing in core market properties. The evidence points to a demand-side explanation for the relation between investment characteristics (core vs. non-core) and project financing. Moreover, our analysis provides support for the hypothesis that firms avoid mortgage financing in core markets to preserve operational flexibility in these markets.

JEL Classifications: G21, G31,G32, R3

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1 Introduction

The capital structure literature has documented numerous stylized facts about corporate leverage and has proposed theories to explain these facts (Harris and Raviv (1991) among others). Firm characteristics – especially tangible assets, market-to-book value ratio, size, and profitability – are the primary determinants of capital structure. Most empirical tests rely on firm-level cross-sectional or panel data (e.g., Helwege and Liang (1996), Baker and Wurgler (2002), Frank and Goyal (2003)). Yet evidence at the transaction level is scarce. In this study, we examine the effects of investment characteristics on individual project financing since firm characteristics can be viewed as the cumulative outcome of past investment and divestment decisions. Specifically, we study the relation between investment characteristics (core vs. non-core investment) and financing (secured debt). Although there is abundant evidence showing how the supply of credit affects financing (Lemmon and Roberts (2010) among others), our contribution to this line of literature is providing unique evidence on the relation between credit *demand* and financing.

The financing of individual investment by most firms is not directly observable by outsiders since firms tend to use internal cash combined with funds raised in bulk from debt and equity capital markets to finance current operations, future investments, dividend payments, and other corporate activities.[1] Often it is also difficult to assess how certain investment characteristics affect financing, as traditional corporations tend to invest in heterogeneous asset types. However, real estate investment trusts (REITs) provide an ideal laboratory to explore the relationship between investment characteristics and financing choices for two reasons. First, REITs invest in homogeneous tangible assets (real estate) that can be easily identified as core or non-core investments. Second, REITs often use secured debt (e.g., mortgages) to finance property acquisitions. This makes it possible to identify secured financing at the transaction level.[2] These two characteristics of the REIT sector allow us to overcome the challenges associated with connecting investment characteristics to financing in traditional corporations.

In lieu of mortgage financing, REITs can use unsecured public debt, unsecured bank loans, or

[1] Mergers and acquisitions represent a notable exception where the source of financing can be identified (e.g., Asquith et al. (1990)).

[2] In this paper, secured debt refers to first-lien mortgages, which generally cover 60 to 80% of the value of the property. The remaining portion of the financing is generally a combination of equity and second-mortgage or mezzanine debt.

equity to fund investment. For example, Brown and Riddiough (2003) and Hardin III and Wu (2010) indicate that REITs are constrained by their limited ability to accumulate cash from operations. Consequently, they often use unsecured bank lines to fund property acquisitions and development and then refinance those loans by raising cash in the bond market. Ott et al. (2005) show that only 7% of REITs investments were funded by retained cash earnings in the 1990s, compared to 70% for other public firms. Unfortunately, data limitations preclude us from distinguishing among these other forms of financing. Thus, we remain agnostic about REITs' preferences over these alternative-funding sources. However, in our empirical analysis we control for the firms' previous debt and equity issuances and will comment on the likely use of these alternative funding sources whenever supported by the evidence.

In this paper, we use a large sample of commercial property acquisitions by 107 REITs from 2000 to 2013 to examine the relation between investment characteristics and mortgage financing. As expected, our data shows that across property diversification is not the panacea of most REITs. In contrast, property acquisitions outside of core markets are common occurrences. It appears that REITs expand operations geographically to benefit from economic diversification. More importantly, the use of mortgage financing in REITs' non-core markets is on average 9% more likely than in their core markets. This finding is confirmed in multivariate estimations controlling for firm characteristics, transaction attributes, credit market conditions, year fixed effects, and property-type or firm fixed effects. Depending on the model specification, REITs are 4.6% to 8% more likely to use mortgage financing outside of their core markets. As expected, the effect of location on the use of mortgage financing decreases in magnitude and statistical significance as we expand our definition of core markets. Also, the effects of various control variables included in our model are quite intuitive. Namely, the probability of mortgage financing increases with transaction size, the number of properties being acquired, leverage, and equity issuance, but decreases with firm size and cost of debt financing. The intuitive signs and significance of the control variables bolsters confidence in our main finding: investment characteristics (core vs. non-core) affect project financing.

The negative relation between core markets and mortgage financing does not appear to be driven by the distance between investment location and the acquirer's headquarters. Distance does not affect the likelihood of mortgage financing when included alongside our core market dummy. Our results are also robust to an alternative measure of the firm's core property market. Since

most REITs are headquartered within one of their core markets, we use the headquarters state as an alternative definition of core market and confirm that REITs are more likely to use mortgage financing when purchasing outside of their headquarters state.

The mortgage financing choices we observe in the data are at the intersection of the demand and supply of mortgage financing. To properly interpret the relation between core market and financing choices revealed in the data, we first need to understand mortgage supply and demand in each market. Generally speaking, the supply of secured financing for real estate investments can be assumed to be relatively elastic. This is especially true for REITs who are viewed as better stewards of commercial real estate than most private investors. Mortgage financing was widely used by REITs before they had greater access to capital markets after the mid 1990s (Hardin III and Wu (2010)) and still remains an important source of funding for REITs (Brown and Riddiough (2003)), representing roughly 30% of total assets. Large financial institutions (including insurance companies), and commercial mortgage backed securities (CMBS) conduits are keen to provide this type of financing. For lenders, this type of financing is obviously less risky than unsecured lending (Porta et al. (1997)) and has a liquid secondary market relative to unsecured bank loans. Another attractive feature of this type of financing to lenders is that the underwriting of commercial mortgage loans generally largely focuses on the economics of the subject property, rather than the buyer's financial position, because commercial loans are generally granted on a non-recourse basis. Consequently, it is relatively safe to assume that a property with reasonable potential to generate income can usually be financed with a mortgage, if desired. Also, when uncertainty about counter-party risk increased during the early months of the 2008 financial crisis, the ensuing credit crunch made collateralized borrowing the only option for many firms during this period.

The elastic supply of mortgage financing we just described seems to indicate that the negative relation between core market investment and mortgage financing is driven by demand factors. However, to bolster the demand-side interpretation, we not only need to show that the mortgage supply is relatively elastic, but also that public debt is at least available for those transactions financed with mortgages. Traditional pecking order theory suggests that public debt is preferred to mortgage debt in general, so we need to demonstrate that the firm chooses mortgage debt over unsecured debt. We find that the effect of property location (core vs. non-core investment) on the likelihood of mortgage use is confined to REITs that have access to the public debt market. If

public equity were the main alternative to mortgage financing, we would expect our core market variable to remain significant for REITs that do not have access to public debt markets, but we find that the negative relation between core market and mortgage financing only exists for firms that have access to public debt markets (as proxied by previous public debt issuance). In other words, firms that have the choice between public debt and secured financing are also the firms that choose not to use secured financing in core markets. This lends support to the demand-side explanation for our main results.

Finally, we discuss and empirically test two potential hypotheses consistent with the demand-side explanation. The agency problem hypothesis suggests that REITs prefer to use mortgage financing in their non-core markets to mitigate potential agency problems. Alternatively, the flexibility hypothesis implies that REITs prefer not to use mortgage financing in their core markets to preserve flexibility. Our empirical results are consistent with the flexibility hypothesis. In summary, we show that the negative relation between core market and mortgage financing is consistent with a demand-side effect where firms prefer not to use secured financing in core-markets to maintain flexibility.

Our contribution is twofold. First, this paper contributes to the growing literature that examines the role of location in various corporate issues and investment decisions. Immobility is a defining feature of real estate assets. This gives rise to the popular saying that the three most important things in real estate are location, location, and location. Evidence also suggests that location plays an important role in dividend, investment, and lending decisions for traditional corporations.[3] However, the effect of *investment location* on financing choices by firms has received considerably less attention. We fill this gap in the literature by examining the relationship between investment location and funding choices in the REIT sector. More specifically, we examine how the location of an acquired property relative to the acquirer's core property markets relates to the use of mortgage financing. Admittedly, we are not able to determine the causal mechanism that drives the relation.

[3]Becker et al. (2011) show that firms headquartered in areas where seniors constitute a large fraction of the population are more likely to pay dividends. Location affects option grants through the channel of local labor market conditions and social interaction with neighboring firms (Kedia and Rajgopal (2009)). Dougal et al. (2015) show that firms' investments are correlated with those firms headquartered nearby. Also, mutual fund managers and individual investors demonstrate strong preferences for stocks of nearby firms and tend to earn substantial abnormal returns on those investments (Coval and Moskowitz (1999), Zhu (2002), Ivković and Weisbenner (2005)). The geographic proximity of target firms is associated with a higher probability of M&A success (DeLong (2001), Kang and Kim (2008), Uysal et al. (2008)). The location of firms relative to banks is an important factor in the supply of credit (Degryse and Ongena (2005), Agarwal and Hauswald (2010) and Brevoort and Hannan (2006) among others).

However, we perform additional tests to properly interpret our main empirical results. Second, we also contribute to the literature on financing by providing transaction-level evidence that investment characteristics affect financing choices. Specifically, there is a negative relation between core market investment and mortgage financing. We then show that the negative relation between core market and mortgage financing is consistent with a demand-side explanation. Namely, REITs prefer not to use mortgages in their core market to preserve flexibility. This demand-side evidence represents a novel contribution to the existing literature which largely focuses on the relation between credit supply and financing.

The rest of the paper is organized as follows. Section 2 describes our data sources and the primary empirical methodology employed in the paper. In Section 3, we present our main empirical analysis and additional tests that suggest a demand-side explanation for our primary results. Section 4 outlines two potential hypotheses consistent with the demand-side explanation, and presents empirical tests for both hypotheses. Section 5 concludes.

2 Data and Methodology

We use property transaction data compiled by Real Capital Analytics (RCA), a leading commercial real estate data provider and analytics firm.[4] The original dataset contains 11,000 U.S. office, industrial, hotel, residential, and retail property transactions of $10 million or more completed between 2000 and 2013.[5] For each transaction, RCA records property attributes, transaction characteristics, the parties involved in the transaction, and financing information that is crucial for the analysis in this paper. Recorded property and transaction characteristics include property type, location, transaction price, and whether the purchase is part of a portfolio acquisition. In addition, RCA identifies the buyer of the property and the buyer type (e.g. public REIT). RCA also specifies whether secured debt (i.e., mortgage financing) is used to finance the purchase. We limit our analysis to transactions where the buyer is a public U.S. equity REIT.

We match the RCA data to buyer information available from SNL Financial.[6] SNL's real

[4]RCA is a global private research firm that exclusively focuses on commercial real estate. It collects transaction-level information on property sales and financing and provides services to commercial real estate investors. RCA also publishes various commercial real estate market price indices.

[5]All dollar amounts in the paper are adjusted to year 2000 dollars using the Consumer Price Index (CPI).

[6]SNL Financial is a provider of news, financial data, and expert analysis on banking, insurance, financial services, real estate, energy, media & communications, and metals & mining.

estate platform extensively covers public U.S. real estate companies, such as REITs, REOCs, and homebuilders. We retrieve from SNL the following company information for the 164 equity REITs comprising our original sample: property type focus, location of the firm's headquarters, financial information, and security issuances. We then gather corresponding accounting information from Compustat. Finally, we merge the property transactions with corporate credit spreads and average mortgage interest rates at the time of the transaction (data is from the Federal Reserve Bank of St. Louis). Specifically, we use Moody's seasoned Baa corporate bond yield relative to the yield on a 10-year Treasury Constant Maturity and the 30-Year Conventional Mortgage Rate.

Our final sample consists of RCA transactions involving REITs covered by both SNL Financial and Compustat. Also, initially we require that SNL has information on the REIT's primary markets, which reduces the number of usable observations. However, we will relax this constraint in Section 3.3. The final sample contains 5,952 properties acquired by 107 public U.S. equity REITs during the 14-year period covered by the study (i.e. year 2000 through 2013). Table 1 breaks down the REITs by focus and the transactions by property type in Panel A and Panel B, respectively. More than 50% of the REITs in our sample focus on retail and office properties. Multifamily is the next largest REIT type (18%), with the remainder roughly equally split between diversified, industrial, and hotel REITs. In terms of transactions by property types, office and retail represent roughly 53% of our sample. This is not surprising since most of our REITs focus in these sectors as well.[7] Table 1 shows that our data covers a wide range of REIT types and property types.

Table 2 reports the characteristics of the REITs in our sample based on firm-year observations. Out of 719 firm-year observations, firm size ranges from $105.49 million to $24.65 billion, with a mean of $2.34 billion.[8] The average leverage of 0.52 (defined as total debt scaled by total assets) and secured debt of 0.29 (defined as total secured debt scaled by total assets) is high relative to non-REIT corporations, but are representative of the real estate industry in general. On average, firms hold $36 million in cash. Since REITs are subject to stringent earnings distribution requirements,

[7]REITs avoid diversification across property types. Among the 182 equity in operation at the end of 2015, 17 REITs, representing 9.3% of total assets, were classified as diversified REITs, i.e., investing in two or more commercial property types (Krewson-Kelly and Thomas (2016)). Diversified REITs underperformed the FTSE-NAREIT (FN) Equity REIT Index by 2.1% annually from 1994 to 2015 (Krewson-Kelly and Thomas (2016)). But diversified REITs may be of lower risk, resulting in a lower cost of debt Demirci et al. (2016).

[8]Table 2 shows significant heterogeneity in firm size, a key determinant of mortgage financing. We will control for firm size in our baseline regression to better nail down the effect of core market. Similar arguments apply to transaction size as well.

the low level of average cash holdings is expected. Last, we present statistics for public debt and equity issuances of those REITs in our sample. Because of the considerable heterogeneity in firm size, it is likely that the REITs in our sample do not have equal access to public debt markets, one of the preferred sources of investment funding for public REITs. We address the implications of this issue on our main results in Table 7. In our sample, REITs access public debt/equity markets 0.85/1.49 times per year on average. It is worth noting that the median public debt and equity issuances per year are 0 and 1, respectively.

Our goal is to determine whether investment characteristics impact REITs' financing choices. To investigate this question, we estimate a linear probability model of the use of mortgage financing similar to Brown and Riddiough (2003). Specifically, we estimate the following equation using the commercial property transactions in our data set:

$$Pr(MORTG_{ijt} = 1) = \alpha + \beta\, COREMARKET_i + \gamma\, TRANS_i + \delta\, FIRM_{jt} + REIT_k + Year_t + \eta_{it} \quad (1)$$

where $MORTG_{ijt}$ is an indicator variable that equals one if a mortgage was used to buy property i, by firm j, with property type focus k, in year t. We condition the likelihood of mortgage use on core or non-core investment, transaction attributes, firm characteristics and variables measuring the cost of debt financing. $COREMARKET_i$, the investment characteristics variable (our primary variable of interest), is an indicator that equals one if the property is located in the buyer's self-identified primary market. Transaction attributes ($TRANS_i$) include the distance between the purchased property and the REIT's headquarters, transaction size, and an indicator variable for whether the transaction is part of a portfolio acquisition. Time-varying firm characteristics, represented in our model by $FIRM_{jt}$, include firm size, leverage, secured debt, cash, previous public debt issuances and previous public equity issuances.[9] Furthermore, we include a number of fixed effects. Namely, we include year fixed effects ($Year_t$) to account for changes in macroeconomic fundamentals across different years; REIT property type focus fixed effects ($REIT_k$) to control for heterogeneity in

[9]The firm life cycle is likely to affect the probability of mortgage use. Unfortunately, we do not have firm age data to address this concern. However, in unreported results we proxy for firm age using the difference between the transaction date and the IPO date for the REIT. The results reported in the paper are materially unchanged when we include this proxy for firm age and firm age squared.

funding strategies across different property types; and firm fixed effects to account for heterogeneity across firms.[10] Finally, η_{it} captures the error term. Although we use a linear probability model to estimate equation (1), unreported robustness checks confirm that our results are materially unchanged when we employ a nonlinear specification (e.g. probit).

3 Empirical Analysis

In this section, we present the empirical analysis testing the relation between investment characteristics and funding choices for acquisitions by REITs. We first perform univariate analysis for transactions located in the core and non-core market in Section 3.1. Next, we estimate equation (1) and provide our baseline results in Section 3.2. We then provide robustness checks by re-estimating equation (1) with expanded core market measures and an alternative core market definition in Section 3.3. In Section 3.4, we first present subsample analysis to distinguish between supply-side and demand-side explanations for our main result. Then, we investigate the relation between public debt and equity issuances and investment characteristics to lend further support for the demand-side explanation. In Section 4, we outline two potential hypotheses consistent with the demand-side explanation (agency problem hypothesis vs. flexibility hypothesis) and empirically test these two hypotheses.

3.1 Univariate Analysis

Since we want to examine the relation between investment characteristics and mortgage financing choices, we first present various transaction level characteristics for properties located in the REITs' self-reported core and non-core markets. Our final sample contains 988 core market transactions and 4,964 non-core market transactions. It is worth noting that although core market represents a lower transaction share, it is still the market where the REIT generates the most net operating income (NOI). Furthermore, the low share of core-market transactions (16.60%) reflects the fact that most REITs do in fact acquire and operate properties in multiple markets.

Columns (1) and (2) of Table 3 present transaction-level characteristics for core market and non-core market transactions, respectively. Column (3) presents unconditional mean difference

[10] Note that firm fixed effects absorb property type focus fixed effects.

tests between columns (1) and (2).[11] Several important facts emerge from Table 3. First and foremost, REITs' use of mortgage financing varies across core and non-core markets. In core markets, 28% of the purchases are financed with mortgage debt. However, in non-core markets, mortgages are used in 36% of the transactions. This difference (9%) is economically large and statistically significant at the 1% level of confidence, as indicated in column (3). This provides support for the hypothesis that financing choices are related to investment characteristics (core vs. non-core markets) – the primary focus of this paper. There are also other important differences between core market and non-core market transactions. Purchases in core markets tend to be larger ($27.66 versus $24.05 million), but are less likely to be part of a portfolio acquisition. Since REITs tend to be headquartered within (or near) their core markets, the distance between the firm's headquarters and the property location is smaller in core markets (159 miles vs. 614 miles). In sum, Table 3 provides preliminary evidence that mortgage financing choices vary across core and non-core markets. The other differences in transaction characteristics in Table 3, however, suggest that we need to control for these characteristics when examining differences in financing choices across core and non-core markets.

3.2 Baseline Results

In the previous section, we provide univariate results concerning the relation between core market and mortgage financing, but note that core market transactions differ from non-core market transactions along several dimensions. Hence, in this section we investigate whether the negative relation between core market and mortgage financing remains after controlling for other transaction-level characteristics by estimating several variants of equation (1). In all specifications, the dependent variable is an indicator variable equal to one if the transaction is financed with a mortgage, and zero otherwise. The independent variables in the regressions include the core-market measure, log distance between the property and the firm's headquarters, and other control variables at the REIT, transaction, and market level.

Previous studies argue that asymmetric information increases in distance.[12] Intuitively, economic decision makers (e.g., firms or lenders) have better information on projects located nearby.

[11] For indicator variables (mortgage, portfolio acquisition), we employ a two-sample test of differences in proportions, while for continuous variables (transaction size, distance) we use two sample t-tests.

[12] See (Agarwal and Hauswald (2010) and Garmaise and Moskowitz (2004) for examples.

A REIT may have an informational advantage on projects located near its headquarters, and this in turn may affect the firm's choice to use a mortgage.[13] Not surprisingly, core market and distance are highly correlated (-0.71) in our sample. Therefore, we want to control for distance to ensure that our core market measure has an effect independent of the effect of distance on the likelihood of mortgage financing.

Column (1) of Table 4 presents coefficient estimates from our baseline model. The coefficient on *Core Market* is negative and statistically significant, indicating that REITs are less likely to use mortgage financing for acquisitions in their core market after controlling for transaction, firm, and market characteristics. Moreover, the economic magnitude of this effect is large as well. Core-market decreases the likelihood of mortgage financing by eight percentage points, *ceteris paribus*. Relative to the mean likelihood of the mortgage financing, this represents a 23% decrease.[14] On the other hand, distance is insignificantly associated with mortgage financing choices. On the basis of the high correlation between core market and distance, we interpret the results in column (1) of Table 4 as evidence that investment characteristics (e.g., core vs. non-core investment) play a salient role in funding decisions. Importantly, the distance between the firm and the investment does not drive the relation between core market and mortgage financing.[15]

The coefficients on other control variables are generally consistent with economic intuition. Larger transactions and portfolio acquisitions are more likely to be financed with mortgages. Smaller REITs are more likely to use mortgage financing. This can be attributed to the fact that smaller REITs usually have limited access to alternative forms of financing, the bond market in particular. Consistent with Riddiough and Steiner (2015), we find that leverage is positively related to mortgage financing. Riddiough and Steiner (2015) argue that highly levered firms are close to their maximum debt capacity, and secured funding enables the firm to expand debt capacity without exacerbating agency problems.[16] The coefficient on secured debt is negative, although

[13]For transactions that REITs know less about, they may prefer mortgages to shield this property away from their other assets. Note that our distance measure is between the buyer and the property, rather than between the lender and the property. We do not observe the identity of the lender in the data. It could easily be implied from Degryse and Ongena (2005) and Agarwal and Hauswald (2010) that the type of loan (unsecured vs. secured) offered by lenders should be a function of the distance between property and lender location.

[14]Eight percent divided by the unconditional mean of 34.67%.

[15]The fact that the distance variable is insignificant in predicting mortgage use does not necessarily challenge the information asymmetry story.

[16]The agency problem between managers and debt holders includes underinvestment (debt overhang) and over-investment (asset substitution). It is only relevant in firms with unsecured debt. Such agency problems tend to exist in firms with higher leverage. Using secured debt for acquisitions segregates the investment from the firm's existing

only marginally statistically significant. Column (1) also shows that firms with larger cash holdings are more likely to use mortgage financing. One possible explanation is that firms accumulate cash because they have limited access to unsecured debt and equity financing. We also consider two variables related to the firm's access to other financing choices: public debt issuances and public equity issuances in the previous year. The coefficient on previous public debt issuances is negative, although only marginally significant. This may indicate that public debt issuers have better access to unsecured debt financing and are therefore less likely to use mortgage financing. We will return to this idea in Section 3.4. Previous public equity issuances, on the other hand, are positively related to mortgage use. Finally, we include two variables related to the cost of debt financing. Both the corporate credit spread and 30-year conventional mortgage rate are inversely related to mortgage financing, suggesting that firms tend to use mortgage debt when the cost of debt is lower.

Column (2) of Table 4 includes year fixed effects to control for nation-wide changes in economic conditions. The inclusion of year-fixed effects thus identifies the average within-year changes in the dependent variable as a function of the independent variables in the regressions. Similar to the results in column (1), the core market variable is significantly negatively associated with the funding decision. Furthermore, the magnitude of the coefficient is nearly identical to column (1). As for the control variables, the signs and significance level of the coefficient estimates in column (2) are similar to those in column (1). A notable exception, however, is that the coefficients on corporate credit spread and 30-year conventional mortgage rate are no longer significant, suggesting that the year fixed effects absorb their effect on mortgage financing.

In column (3), we add REIT property type focus fixed effects to account for unobserved time-invariant heterogeneity in funding strategies across different property types. This is based on the anecdotal evidence that there might exist significant heterogeneity in mortgage use across different property focuses. The inclusion of year and property type focus fixed effects identifies the average within-year and within-REIT-type changes in the dependent variable as a function of the independent variables in the regressions. Note that our main result remains intact.

Finally in column (4) of Table 4, we include firm fixed effects to account for unobserved time-invariant heterogeneity in funding strategies across different firms. Note that this additional fixed effect subsumes REIT-type fixed effects. Thus, the estimates in column (4) identify the average

assets. Hence, it is insulated from the existing agency problems.

within-year and within-firm changes in the dependent variable as a function of the independent variables in the regressions. All results are similar to those in the first three columns. Although the magnitude of the coefficient is somewhat reduced after including firm fixed effects, *Core Market* is still associated with a 4.6 percentage point decrease in the likelihood of mortgage financing, or a 13% decrease relative to the mean.

3.3 Other Core-Market Measures

In Section 3.2, we provide evidence of a robust negative relation between core market investment and mortgage financing. In this section, we perform additional robustness tests to properly interpret this negative relation. First, we expand our definition of core market to encompass a broader geographic area of investments. Second, we use an alternative measure of core market that does not rely on the firm's self-reported investment focus.

In the previous section, we define core market as an indicator variable that equals one if the transaction is located within the REIT's self-reported primary market. REITs also list additional markets that they focus on (e.g., secondary, tertiary, quaternary, etc.). We now re-estimate equation (1) using expanded definitions of core market. In essence, we are performing an exercise analogous to a falsification test. If the significant relation documented is Table 4 is truly about core market investment, then we would expect the relation to weaken (or disappear) as we expand the definition of core market.

Table 5 presents coefficient estimates from equation (1) with expanded measures of core market investment. All estimations in Table 5 use the most penalizing model specification which includes year fixed effects to account for unobserved market-wide changes over time and firm fixed effects to control for time-invariant heterogeneity across REITs. Column (1) of Table 5 is identical to column (4) in Table 4 and is reported to ease comparisons. In column (2) of Table 5, *Core Market* equals one if the transaction is located within the firm's self-reported primary or secondary market. *Core Market* in columns (3) and (4) equals one if the property is located within the firm's self-reported top three or four markets, respectively. Notice that the estimated coefficient on the core market variable decreases in (absolute) magnitude as we expand the definition of core market. More importantly, the coefficient on core market loses its statistical significance once we expand the definition of core market investment. At the same time, the coefficients and significance levels

on other control variables remain largely unchanged. We interpret this result as evidence that the relation between core market investment and mortgage financing is driven by the firm's primary market. In other words, the core market investment effect is highly localized.

Next, we perform a robustness test by using an alternative core market measure. To compute our core market variables in the preceding analysis, we require that SNL has information on the markets in which the firm operates. However, this is somewhat restrictive since SNL does not have information on REITs' geographic focus for 2,439 transactions. To include those observations in our analysis, we define an alternative measure of core market investment. Namely, we create an indicator variable that equals one if the transacted property is located in the same state as the firm's headquarters, with the underlying assumption that REITs tend to headquarter within the state where they focus their investment.[17] We first estimate equation (1) with year and REIT-type fixed effects and present the results in column (1) of Table 6. The relation between this alternative measure of core market investment and mortgage financing is very similar to the results in column (3) of Table 4. Column (2) includes firm fixed effects, with the results similar to those in column (4) of Table 4.

In summary, we show that the relation between core market investment and mortgage financing appears to be relatively local in nature (e.g., primary market). Also, we provide evidence that our results are robust to an alternative measure of core market that allows us to perform our analysis on a larger sample of transactions.

3.4 Demand-Side Evidence

As noted previously, we only observe equilibrium mortgage financing decisions in the data: the intersection of the demand and supply of mortgage financing. As explained in the introduction, the supply of mortgage financing can be assumed to be relatively elastic for REIT investments since secured financing is readily available for a wide variety of firms and during various time periods with vastly different macroeconomic conditions. This seems to indicate that the documented negative relation between core market investment and mortgage financing is driven by demand factors. However, to bolster the demand-side interpretation, we not only need to show that the supply of

[17] For observations where we can construct our primary measure of core market, the correlation between the primary and alternative measures of core market is 0.50 and significant at the 1% level of confidence.

mortgages is relatively elastic, but also that public debt is at least available for those transactions financed with mortgages. Put differently, we need to demonstrate that the firm chooses mortgage debt over unsecured debt. Mortgage financing can be selected because it is the desirable financing choice, or because it is the next (or only) choice on the financing menu.

3.4.1 Access to Public Debt

As a first step in proving a demand-side story, we examine the use of mortgages by REITs with and without access to the bond market. We hand collect data on the REITs' access to the public debt market. If the REIT had a public bond rating at any point prior to the purchase transaction, we assume that it has access to public debt markets. We find that transactions by firms with access to public debt markets are on average significantly less likely to use a mortgage relative to firms that do not have access to public debt markets in our data (33% versus 42%). This suggests that firms with another long-term debt financing option (e.g., public debt) choose to use mortgages less frequently. Next, we explore this question using our multiple regression framework.

We divide our sample into two subsamples on the basis of the REITs' prior access to the public debt market and re-estimate equation (1) for each subsample. The coefficient estimates are reported in Table 7. Column (1) shows a large and statistically significant relationship between *Core Market* and mortgage use for firms that have access to public debt markets. However, the magnitude of the effect and the statistical significance are considerably reduced in the subsample that has not accessed public debt markets before the transaction in Column (2). In other words, the firms that have another option for long-term debt financing (e.g., public debt markets) are the same firms that are less likely to use mortgages for core market investments. We are careful not to interpret these results too strongly since we do not observe the long-term financing choices on non-mortgaged properties (e.g., equity, public debt, term loans). However, the results in Table 7 are consistent with a demand-side explanation for the negative relation between core market investment and mortgage financing. As a matter of fact, if the negative relation between core market investment and mortgage financing is driven by the lack of public debt financing, then we would expect the negative relation to become stronger in the subsample that has not accessed public debt markets before the transaction. The results in Table 7 contradict this conjecture.

In Table 8, we restrict the sample to observations where the firm's total assets are below the

median in our data. The rationale for this test is similar to that for Table 7. We focus on smaller firms because other types of financing such as public debt are likely to be limited for these firms and larger firms with access to the public debt market may avoid mortgages altogether. The magnitude of the coefficient on *Core Market* is larger in this subsample. A core market transaction is associated with a seven point decrease in the likelihood of mortgage use. In unreported results, we further restrict the sample to smaller firms with access to public debt markets and find that the coefficient is even larger. Thus, the relation between investment characteristics and mortgage financing appears to be most important for smaller firms that have access to public debt markets. This lends further support to our demand-side interpretation.

To summarize, the relation between investment characteristics and financing choice appears to be driven by firms that have access to public debt markets. Intuitively, firms with other long-term debt financing options (public debt) are the firms that choose not to use mortgage financing in their core markets. Also, the negative relation between *Core Market* and the likelihood of mortgage financing is particularly strong for smaller firms that have access to public bond markets.

3.4.2 Public Debt and Equity Issuances

In Sections 3.2 - 3.3, we document a robust negative relation between investment characteristics (core market) and financing choice. We also demonstrate that this relation is particularly important for firms that have the ability to access public debt markets, providing some evidence of a demand-side explanation. In this section, we provide further evidence of the demand-side explanation by examining the relationship between core market purchases and the likelihood that a firm issues public debt or equity by estimating the following linear probability model:

$$Pr(ISSUANCE_{jt} = 1) = \alpha + \beta\, CORE\_V_{jt} + \gamma\, NONCORE\_V_{jt} + \delta\, FIRM_{jt} + Year_t + FIRM_j + \eta_{it} \quad (2)$$

where $ISSUANCE_{jt}$ is an indicator variable that equals one if REIT j issued public debt (equity) in year t. Each observation in equation (2) is a firm/year. $CORE\_V_{jt}$ is the natural logarithm of one plus the total volume of core market purchases by REIT j in year t. $NONCORE\_V_{jt}$ is the natural logarithm of one plus the total volume of non-core purchases by REIT j in year t. $FIRM_{jt}$

includes time varying firm characteristics. We also include year and firm level fixed effects. β and γ are the key parameters of interest.

Column (1) of Table 9 reports coefficient estimates from equation (2) with an indicator for public debt issuance as the dependent variable. If firms are more likely to use public bond market financing in core markets, we would expect $\beta > 0$. In fact, this is exactly what we find. The volume of purchases in the firm's core market is positively related to the likelihood of public debt issuance in the same year. On the other hand, the volume of non-core purchases is not significantly related to the likelihood of public debt issuance. This complements our earlier results that demonstrate that mortgage financing is less (more) likely to be used for individual project financing in core (non-core) markets. As public debt is preferred to mortgage, the results in Table 9 provide some evidence that firms are more likely to use public debt, rather than mortgage debt, to finance core market purchases. In column (2), we repeat the exercise using an indicator for equity issuance as the dependent variable. Interestingly, neither core nor non-core purchase volume is significantly related to the likelihood of equity issuance.

4 Potential Explanations

In the previous section, we show that the negative relation between core market and mortgage financing is consistent with a demand-side story. In this section, we outline two potential explanations from the demand-side of credit: the agency problem hypothesis and the flexibility hypothesis.[18]

[18] We are aware that these hypotheses are not exhaustive, nor are they necessarily exclusive. Two other possibilities are relationship banking and growth REITs' effect, which we cannot rule out but are unable to test in this paper. Nevertheless, we provide some details. First, local banking relationships may explain the lower propensity to use mortgage financing in core markets. Most companies maintain strategic banking relationships close to home. Facing less information asymmetry than outside banks about the REITs' business strategies and prospects, these banks may be comfortable in providing financing locally on an unsecured basis. Banks located in non-core markets face a different problem. Although they are likely to have extensive knowledge of their markets, they may have a limited understanding of the REITs' strategies and financial position. Consequently, they may be reluctant to provide unsecured debt, forcing REITs to use mortgage financing in non-core markets. Unfortunately, public information on REITs' local banking relationships is not available and this explanation is more about supply than demand. Second, growth REITs are generally in the middle of their lifecycle: they are not small firms that rely almost entirely on secured financing, but they are also not yet large enough to have unfettered access to the public debt market. Generally, REITs are restricted to equity and secured debt funding during their early years since they are still relatively small (Brown and Riddiough (2003); Hardin III and Wu (2010). In contrast, mature and well-established REITs enjoy a funding advantage through easier access to the public debt market. Thus, little variation in funding structure will be observed for small and large REITs. Yet empirically identifying growth REITs is difficult. Furthermore, this explanation does not align well with our demand-side evidence regarding access to public debt markets.

4.1 Agency Problem Hypothesis

Similar to other corporations, the division of ownership and management may lead REIT managers to undertake aggressive geographic expansion away from their core markets for personal reasons. For example, managers may succumb to the prestige associated with managing a large firm or their compensation may be tied to the REITs' total revenues. Concerned about this agency problem, shareholders and unsecured lenders may require that investments in non-core markets be financed with mortgage debt since it includes three important features that mitigate this potential agency problem. First, secured lenders provide third party validation regarding the quality of the non-core investments, and are particularly incentivized to verify the quality of the projects if the loans are non-recourse as is often the case for commercial real estate. Second, mortgage lenders will closely monitor the performance of the properties since the loans will be repaid from cash flows generated by those properties. Consequently, requiring management to use mortgage financing is a way of contracting out the vetting and monitoring of non-core investments to third parties that specialize in those tasks. However, as residual project owners, shareholders will still bear the associated higher cost of secured financing. Finally, mortgage financing may limit contagion from a non-performing asset to the REIT's other assets if, as is often the case, the mortgage loan is made to a special purpose vehicle capitalized by the REIT. This could protect the REIT's core assets from poorly performing non-core assets. Should this agency problem be the main reason behind the higher frequency of secured financing observed on the REITs' non-core investments, we would expect the effect to fade away over time as management gains experience in those markets. In summary, as the firm demonstrates a track record of investment in the non-core market, the potential agency issues will be less severe and the need for third party project validation and monitoring declines. In this sense, experience in non-core markets should be negatively correlated with mortgage use.

To test this prediction, we estimate the following regression on the subsample of transactions that occur in non-core markets:

$$Pr(MORTG_{ijt} = 1) = \alpha + \beta\, EXPERIENCE_i + \gamma\, TRANS_i + \delta\, FIRM_{jt} + FIRM_j + Year_t + \eta_{it} \quad (3)$$

where $EXPERIENCE_i$ is the natural logarithm of one plus the number of purchase transactions that the firm completed in the subject property's region in the previous five years. The regions included in the RCA data are Mid-Atlantic, Midwest, Northeast, Southeast, Southwest, and West. Since we need transactions in the region by the firm in the previous five years, our regression will include only transactions from 2005 or later. $EXPERIENCE$ is meant to capture the firm's experience in the region. If the positive relation between non-core market investment and mortgage financing is driven by management's need to obtain third party verification to mitigate agency issues, then we would expect $\beta < 0$, since concerns over agency issues should decline as the firm gains more experience in the non-core market.

Table 10 presents the coefficient estimates from equation (3). Firm experience in the non-core region is positively related to the likelihood of mortgage financing. This contradicts the agency problem hypothesis. In unreported robustness checks, we use different periods for the experience variable (e.g., one, two, three, and four years) and an alternative geographic definition (state-level) and the results are qualitatively similar. Namely, for non-core transactions, we do not find evidence that mortgage use decreases with experience.[19] These results do not support the agency problem hypothesis.

4.2 Flexibility Hypothesis

As a key strategic business characteristic, the importance of core vs non-core investments is self-evident. Furthermore, it is intuitive that firms prefer to preserve operational flexibility in their core business for various strategic reasons. At the same time, one important aspect of mortgage financing is its associated inflexibility, i.e. constrained property redeployment and disposal (Hardin III and Wu (2010)). Specifically, commercial mortgages typically include covenants that limit borrower discretion on decisions that affect collateral (property) value. For example, new leases, or changes to existing leases, as well as any modification to the property typically require lender approval. Additionally, lenders often require significant ongoing disclosure of property performance information (Brueggeman and Fisher (2016)). It is possible that if unsecured funding is

[19] Defining experience using region and the previous five years is the only specification where experience is positively significant. All other variants show that mortgage use is not statistically significantly related to experience in non-core markets. We report the five year region experience results since they are the most conservative in terms of the agency problem hypothesis.

in limited supply, REITs prefer to use such funding in their core markets in order to maintain operational flexibility.[20] For securitized mortgages (CMBS), flexibility is restricted even further. For example, obtaining a debt modification on a securitized loan is typically much more difficult than on a traditional commercial mortgage. Following this intuition, we empirically test this hypothesis by differentiating traditional mortgage and CMBS mortgage financing.

In Sections 3.2 - 3.4, we group all mortgage loans into one category. In this section, we distinguish between traditional commercial mortgages and securitized (CMBS) mortgages. We model the probability of p_{is} of financing outcome $s \in \{\text{non-mortgage, traditional mortgage, CMBS mortgage}\}$ on transaction i with the multinomial logit specification:

$$p_{is} = \frac{exp(\mathbf{\Gamma}_i' \beta_s)}{\sum_{s=1}^{3} exp(\mathbf{\Gamma}_i' \beta_s)} \tag{4}$$

where $\mathbf{\Gamma}_i$ includes all control variables from the linear probability model of equation (1). The β_s's estimated from equation (4) will be used to determine whether financing choice varies with investment characteristics. For ease of interpretation, we compute the average marginal effects for *Core Market* across the three different financing alternatives. Note that the marginal effects must sum to zero across the three financing alternatives. Put differently, if *Core Market* increases the likelihood of one type of financing, it must decrease the probability of one or both of the other financing outcomes. Note also that the multinomial logit model relies on the independence of irrelevant alternatives (IIA) assumption. Thus, in using this model, we are assuming that removing one of the financing options does not change the relative likelihoods of the other two financing alternatives.[21]

Table 11 reports the marginal effect estimates from the multinomial logit model of equation (4). Column (1) shows that conditional on other covariates, a core market transaction increases the likelihood of non-mortgage financing by 6.1 percentage points. Nearly all of this increase in the probability of non-mortgage comes from the decreased probability of CMBS mortgages. In core markets, firms are 4.6 percentage points less likely to use CMBS financing. Although negative, the marginal effect estimate for core market is not significantly related to the likelihood of traditional

[20] REITs may also be less concerned about losing properties located in secondary markets to foreclosure by using mortgage financing.

[21] This assumption needs to be qualified because bank and CMBS loans can be seen as substitutes to some extent.

mortgage financing. The results in Table 11 provide suggestive evidence that firms want to avoid the least flexible form of financing (CMBS) in core markets, or alternatively, firms accept financing inflexibility in non-core markets.

5 Conclusion

In this paper, we provide new evidence on the relation between investment characteristics and financing choices. Using a large sample of commercial property acquisitions, we show that REITs are 4 - 8% less likely to use a mortgage when investing in a property located within their core markets. This suggests that project level investment characteristics (core vs. non-core) affect firm financing decisions. Our results remain after controlling for time-varying firm characteristics, transaction attributes, year fixed effects, and firm fixed effects. The negative relation between core market investment and mortgage financing is confined to the sample of transactions by REITs that are likely to have access to public debt markets. In other words, firms that have access to another form of long-term debt financing (public debt) are the firms that choose not to use mortgage financing in their core markets. Thus, our results are consistent with a demand-side explanation of financing choice. We also provide evidence suggesting that REITs avoid using mortgages in their core markets in order to maintain greater operational flexibility in core markets.

Our analysis contributes to the existing literature in several ways. First, we provide evidence on the relation between investment characteristics and financing at the project level. In contrast, most previous studies investigate financing at the firm level since it is difficult to link financing to specific projects for traditional corporations. Second, although the relation between credit supply and financing has been studied extensively, much less evidence exists on the demand side. Our results suggest that investment characteristics affect the demand for different types of financing. Finally, we add to the growing literature that documents the importance of location to corporate finance by showing that investment location affects the firm's choice of financing at the project level.

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Table 1: Sample Breakdown

Property Type	Freq.	Percent
Panel A: REITs by Focus		
Diversified	12	11.21
Hotel	8	7.48
Industrial	10	9.35
Multifamily	18	16.82
Office	32	29.91
Retail	27	25.23
Total	107	100
Panel B: Transactions by Property Type		
Hotel	197	3.31
Industrial	1,320	22.18
Multi-Family	1,305	21.93
Office	1,445	24.28
Retail	1,685	28.31
Total	5,952	100

Table 2: Firm Year Descriptive Statistics

Variable	Firm Years	Mean	Std. Dev.	Median	Min	Max
Firm Size (log)	719	7.76	0.95	7.8	4.66	10.11
Leverage	719	0.52	0.11	0.51	0.02	0.98
Secured Debt	719	0.29	0.19	0.25	0	0.92
Cash (log)	719	3.57	1.47	3.45	0	8.28
Total Public Debt Issuances	719	0.85	2.66	0	0	54
Total Public Equity Issuances	719	1.49	1.80	1	0	9

Table 3: Differences between Core and Non-Core Transactions

	[1] Core Market		[2] Non-Core Market		[1] - [2] Difference
Variable	Mean	Std. Err.	Mean	Std. Err.	
Mortgage	0.28	(0.01)	0.36	(0.01)	-0.09***
Transaction Size (log)	3.32	(0.03)	3.18	(0.01)	0.14***
Portfolio Acquisition	0.43	(0.02)	0.53	(0.01)	-0.10***
Distance (log)	5.07	(0.06)	6.42	(0.02)	-1.35***
N	988		4,964		

Table 4: Relationship Between Core Market and Mortgage Financing

Dependent Variable: Mortgage Dummy	(1)	(2)	(3)	(4)
Core Market	-0.080***	-0.075***	-0.056***	-0.046***
	(0.016)	(0.016)	(0.016)	(0.018)
Distance	-0.006	-0.006	-0.007*	-0.005
	(0.004)	(0.004)	(0.004)	(0.005)
Transaction Size	0.052***	0.047***	0.054***	0.057***
	(0.008)	(0.008)	(0.008)	(0.008)
Portfolio Acquisition	0.163***	0.175***	0.155***	0.132***
	(0.012)	(0.012)	(0.012)	(0.013)
Firm Size	-0.096***	-0.087***	-0.055***	-0.110***
	(0.010)	(0.010)	(0.011)	(0.020)
Leverage	0.597***	0.463***	0.513***	0.358**
	(0.077)	(0.080)	(0.080)	(0.148)
Secured Debt	-0.082*	-0.020	0.052	-0.016
	(0.047)	(0.048)	(0.049)	(0.099)
Cash	0.064***	0.064***	0.055***	0.003
	(0.006)	(0.006)	(0.007)	(0.009)
Total Public Debt Issuances	-0.004*	-0.005**	-0.005**	-0.002
	(0.002)	(0.002)	(0.002)	(0.003)
Total Public Equity Issuances	0.016***	0.024***	0.027***	0.020***
	(0.003)	(0.004)	(0.004)	(0.004)
Corporate Credit Spread	-0.102***	-0.020	-0.028	-0.040
	(0.011)	(0.026)	(0.026)	(0.027)
30-Year Conventional Rate	-0.015***	-0.028	-0.037	-0.093***
	(0.006)	(0.025)	(0.024)	(0.025)
Constant	0.697***	0.439*	0.345	1.174***
	(0.079)	(0.228)	(0.226)	(0.282)
Observations	5,952	5,952	5,952	5,952
R-squared	0.108	0.128	0.154	0.266
Year FE	No	Yes	Yes	Yes
REIT-Type FE	No	No	Yes	No
Firm FE	No	No	No	Yes

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm uses a mortgage when purchasing a property. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 5: Expanding the Definition of Core Market

Dependent Variable: Mortgage Dummy	(1)	(2)	(3)	(4)
Core Market	-0.046***	-0.021	-0.006	0.002
	(0.018)	(0.014)	(0.014)	(0.013)
Distance	-0.005	-0.003	-0.002	-0.002
	(0.005)	(0.005)	(0.005)	(0.005)
Transaction Size	0.057***	0.056***	0.056***	0.057***
	(0.008)	(0.008)	(0.008)	(0.008)
Portfolio Acquisition	0.132***	0.132***	0.132***	0.132***
	(0.013)	(0.013)	(0.013)	(0.013)
Firm Size	-0.110***	-0.110***	-0.110***	-0.110***
	(0.020)	(0.020)	(0.020)	(0.020)
Leverage	0.358**	0.356**	0.362**	0.365**
	(0.148)	(0.148)	(0.148)	(0.148)
Secured Debt	-0.016	-0.014	-0.018	-0.022
	(0.099)	(0.099)	(0.100)	(0.100)
Cash	0.003	0.004	0.004	0.004
	(0.009)	(0.009)	(0.009)	(0.009)
Total Public Debt Issuances	-0.002	-0.002	-0.002	-0.002
	(0.003)	(0.003)	(0.003)	(0.003)
Total Public Equity Issuances	0.020***	0.020***	0.020***	0.020***
	(0.004)	(0.004)	(0.004)	(0.004)
Corporate Credit Spread	-0.040	-0.041	-0.042	-0.042
	(0.027)	(0.027)	(0.027)	(0.027)
30-Year Conventional Rate	-0.093***	-0.094***	-0.095***	-0.095***
	(0.025)	(0.025)	(0.025)	(0.025)
Constant	1.174***	1.151***	1.143***	1.136***
	(0.282)	(0.282)	(0.282)	(0.282)
Observations	5,952	5,952	5,952	5,952
R-squared	0.266	0.266	0.265	0.265
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm uses a mortgage when purchasing a property. In each successive column we expand the definition of core market. In column 1, core market takes a value of one if the property is located in the firm's primary market. In column 2, core market takes a value of one if the property is located in the firm's top two markets. In column 2, core market takes a value of one if the property is located in the firm's top three markets. In column 4, core market takes a value of one if the property is located in the firm's top four markets. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 6: Alternate Measure of Core Market

Dependent Variable: Mortgage Dummy	(1)	(2)
Core Market (Same State as REIT HQ)	-0.049***	-0.037*
	(0.017)	(0.020)
Distance	-0.005	-0.006
	(0.004)	(0.005)
Transaction Size	0.065***	0.071***
	(0.007)	(0.007)
Portfolio Acquisition	0.166***	0.140***
	(0.010)	(0.011)
Firm Size	-0.070***	-0.054***
	(0.007)	(0.015)
Leverage	0.332***	0.038
	(0.058)	(0.091)
Secured Debt	0.185***	0.204***
	(0.040)	(0.076)
Cash	0.051***	-0.005
	(0.005)	(0.007)
Total Public Debt Issuances	-0.003	0.000
	(0.002)	(0.002)
Total Public Equity Issuances	0.021***	0.015***
	(0.003)	(0.004)
Corporate Credit Spread	-0.044**	-0.068***
	(0.022)	(0.023)
30-Year Conventional Rate	-0.041**	-0.078***
	(0.021)	(0.021)
Constant	0.651***	1.127***
	(0.202)	(0.252)
Observations	8,391	8,391
R-squared	0.166	0.277
Year FE	Yes	Yes
REIT-Type FE	Yes	No
Firm FE	No	Yes

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm uses a mortgage when purchasing a property using a proxy for core market. Core market indicates whether the property purchased is located in the same state as the REIT's headquarters. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 7: Firm Access to Public Debt

Dependent Variable: Mortgage Dummy	(1)	(2)
Core Market	-0.058***	-0.026
	(0.021)	(0.032)
Distance	-0.006	-0.003
	(0.006)	(0.007)
Transaction Size	0.048***	0.061***
	(0.009)	(0.016)
Portfolio Acquisition	0.148***	0.199***
	(0.015)	(0.026)
Firm Size	-0.067*	-0.162***
	(0.039)	(0.025)
Leverage	0.693***	0.283
	(0.194)	(0.173)
Secured Debt	0.037	0.460***
	(0.140)	(0.129)
Cash	-0.002	0.109***
	(0.011)	(0.016)
Total Public Debt Issuances	-0.001	-0.014
	(0.003)	(0.012)
Total Public Equity Issuances	0.019***	0.029***
	(0.005)	(0.009)
Corporate Credit Spread	-0.010	-0.144***
	(0.032)	(0.049)
30-Year Conventional Rate	-0.108***	0.024
	(0.030)	(0.049)
Constant	0.716*	0.783*
	(0.414)	(0.459)
Observations	4,485	1,467
R-squared	0.231	0.219
Year FE	Yes	Yes
Firm FE	Yes	Yes
Firm Access to Public Debt	Yes	No

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm uses a mortgage when purchasing a property. Column 1 includes transactions by firms that had issued public debt at any time prior to the transaction. Column 2 includes transactions by firms that had not issued public debt prior to the transaction. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 8: Small Firms

Dependent Variable: Mortgage Dummy	(1)
Core Market	-0.070***
	(0.024)
Distance	-0.002
	(0.006)
Transaction Size	0.075***
	(0.012)
Portfolio Acquisition	0.094***
	(0.019)
Firm Size	-0.048
	(0.047)
Leverage	-0.030
	(0.226)
Secured Debt	-0.147
	(0.137)
Cash	-0.031**
	(0.013)
Total Public Debt Issuances	-0.003
	(0.005)
Total Public Equity Issuances	0.012**
	(0.006)
Corporate Credit Spread	-0.073*
	(0.038)
30-Year Conventional Rate	-0.041
	(0.034)
Constant	0.655
	(0.462)
Observations	2,973
R-squared	0.314
Year FE	Yes
Firm FE	Yes

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm uses a mortgage when purchasing a property. Column 1 includes transactions by firms with total assets less than the median in our sample. These are the firms for which *Core Market* is measured with the most accuracy. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 9: Annual Public Debt and Equity Issuances

	(1)	(2)
	Public	
VARIABLES	Debt Issuance	Equity Issuance
Core purchase volume	0.013*	0.011
	(0.008)	(0.009)
Non-core purchase volume	-0.001	0.003
	(0.010)	(0.011)
Firm Size	0.264***	0.009
	(0.050)	(0.063)
Leverage	1.428***	-1.229***
	(0.271)	(0.338)
Secured Debt	-1.161***	0.572**
	(0.215)	(0.243)
Cash	-0.008	0.029
	(0.020)	(0.023)
Constant	-2.020***	0.603
	(0.422)	(0.496)
Observations	719	719
R-squared	0.547	0.393
Year FE	Yes	Yes
Firm FE	Yes	Yes

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm issues public debt or equity in a given year. The dependent variable in column (1) is an indicator equal to one if the firm issues public debt in a given year. The dependent variable in column (2) is an indicator variable equal to one if the firm issues equity in a given year. *Core purchase volume* is the natural logarithm of one plus the total dollar amount of purchases in the firm's core market in that year. *Non-core purchase volume* is the natural logarithm of the one plus the total dollar amount of purchases outside the firm's core market in that year. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 10: Non-core Transactions and the Firm's Experience in the Region

Dependent Variable: Mortgage Dummy	(1)
Experience in Region (previous five years)	0.035**
	(0.015)
Distance	-0.008
	(0.006)
Transaction Size	0.049***
	(0.010)
Portfolio Acquisition	0.153***
	(0.017)
Firm Size	-0.200***
	(0.032)
Leverage	0.600***
	(0.201)
Secured Debt	-0.068
	(0.128)
Cash	0.027**
	(0.013)
Total Public Debt Issuances	-0.009*
	(0.005)
Total Public Equity Issuances	0.022***
	(0.005)
Corporate Credit Spread	0.013
	(0.038)
30-Year Conventional Rate	-0.076**
	(0.035)
Constant	1.195***
	(0.401)
Observations	3,934
R-squared	0.276
Year FE	Yes
Firm FE	Yes

Note: The table presents estimates from a linear probability model (OLS) of the likelihood that a firm uses a mortgage when purchasing a property that is not located in the firm's core market. *Experience in Region (previous five years)* is the natural logarithm of one plus the number of transactions the firm completed in the region in the previous five years. The sample includes transactions that occur after 2004 to facilitate computation of *Experience in Region (previous five years)*. White's heteroskedasticity-robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 11: Non-core Transactions and the Firm's Experience in the Region

	(1) No Mortgage	(2) Traditional Mortgage	(3) CMBS Mortgage
Core Market	0.061***	-0.015	-0.046***
	(0.017)	(0.014)	(0.014)
Observations		5952	
Pseudo R-squared		0.151	
Other Controls		Yes	
Year FE		Yes	
REIT-Type FE		Yes	

Note: The table presents marginal effects estimates from the multinomial logit model of equation (4). Although the marginal effects are not reported, the model includes all of the control variables of equation (1). Robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

6 Appendix

Table 12: Variable Definitions

Variable Name	Definition
Mortgage	Indicator that takes a value of one if a mortgage is used to finance the property.
Core Market	Indicator that takes a value of one if the property is located in the REIT's primary market.
Distance	The natural logarithm of the distance between the subject property and the REIT's headquarters.
Transaction Size	The natural logarithm of the purchase price of the subject property.
Portfolio Acquisition	Indicator that takes a value of one if the subject property is part of a portfolio acquistion.
Firm Size	The natural logarithm of the firm's total assets in the previous year.
Leverage	The firm's total debt as a percentage of total assets in the previous year.
Secured Debt	The firm's secured debt as a percentage of total assets in the previous year.
Cash	The natural logarithm of the firm's holdings in cash and short term investments in the previous year.
Total Public Debt Issuances	The number of public debt issuance by the firm in the previous year.
Total Public Equity Issuances	The number of public equity issuances by the firm in the previous year.
Corporate Credit Spread	Moody's seasoned Baa corporate bond yield relative to yield on 10-year (monthly) Treasury Constant Maturity (lagged three months)
30-Year Conventional Rate	Monthly average rate of conventional 30-year fixed rate mortgages (lagged three months)