

Residential Mortgage and Market Returns

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Abstract:

Foreword Securitization and secondary mortgage market development are topics of great interest worldwide, particularly as a means of enhancing the flow of funds to households. The success of secondary markets for mortgages, particularly in the United States, has inspired developing countries to explore the use of this technique to increase funds available for housing finance and reduce significant housing shortages. Developing countries recognize that a vibrant secondary mortgage market can provide distinct benefits including, among others, a deeper capital market, housing policy that responds to the needs of the private sector and reduced risk exposure for industry participants. Standardization and the existence of an active primary market are important prerequisites for the development of a successful secondary mortgage market. The standardization of loan applications, credit policy, property evaluation and loan underwriting is particularly important to lower transaction and processing costs. Moreover, if a regional approach to mortgage intermediation is adopted, primary market standardization becomes paramount, and additional challenges may include managing currency and risk and integrating monetary policy

The mortgage market is vital role for the development of a real estate sector. The mortgage market is the underlying structure that supports home lending through mechanisms intended to facilitate the free flow of funds so that lending

can continue.

The study adopted descriptive and quantitative forms of research design. A panel data regression model was utilized to draw inference from the secondary data collected. Descriptive statistical findings revealed a mean of 0.0796 with a standard deviation of 0.04219 for residential mortgage default risk. Inferential statistics revealed an R square value of 0.2794 between residential mortgage default risk and market returns of publicly listed mortgage originators. In addition, there was significant effect between default risk and the market returns of public mortgage originators. Consequently, mortgagees should develop strategies of reducing non-performing loans. For instance, mortgage firms can improve their credit rating systems.

Key Words: Mortgage Financing, Real Estate, Market Returns, Default Risk

I. Introduction

Securitization and secondary mortgage market development are major topics of interest throughout the world. The success of the secondary market in the United States has led both private and public sector officials in many countries to recommend its creation as a way of enhancing the flow of funds to housing. A successful secondary market is based on effective management of the basic functions and risks involved in mortgage lending, no matter what institutional entities are involved or what separation of functions exists in the market. Also, the degree of competition in the primary market may have a major bearing on the readiness of lenders to participate in a secondary market.

Venturing in real estate development – be it residential or commercial – requires a huge amount of capital investment (Long, 2011). According to Sirota (2004), mortgage financing is one of the financing options that can be utilized by

investors venturing into real estate development. Mortgage financing comes with high risk implications for both the mortgagee and an economy (Sirota, 2004; Long, 2011). According to Shiller (2012), the 2007 financial crisis in the US can be traced back to the mortgage origination process. This suggests that there are various risks that arise during the mortgage origination process. In the same vein, Demyanyk and Hemert (2011) argue that for six consecutive years before the global financial crisis the quality of mortgage loans deteriorated. They attributed this to poor vetting mechanisms – poor mortgage origination processes – by mortgage originators. For the mortgagee, Barth (2009) notes that mortgagees whose borrowers default face the following risks: loss of the principal, interest, and higher collection costs.

According to Cusatis and Thomas (2005), mortgagees have a number of options when it comes to closed mortgage loans. For instance, they can securitize the mortgage by issuing debt with the mortgage payment as collateral, they can keep them in their portfolio, or they can sell the loans to a third party.

Default risk is also referred to as credit risk (Apostolik & Donohue, 2015). It is the likelihood that a borrower will not be able to meet their payment obligations when they fall due. According to Apostolik and Donohue (2015), creditors and lenders are exposed to credit risk on every form of credit extension.

There are a number of conflicting theories that explore the concept of credit risk management. For instance, application of the title theory by mortgage originators can be applied to significantly manage default risk. However, mortgage originators default risk cannot be significantly reduced through the application of the lien theory. In addition, mortgage securitization is a tool that can also be used to manage credit risk. Despite the applicability of these theories, industry performance of mortgage originators is still adversely affected by default risk. Empirical literature is similarly inconclusive with reference to managing default risk. For instance, Wu, Li and Hong (2017) carried out a study whose

findings revealed that default risk significantly influences the financial performance of financial institutions. However, a study by Kithinji (2010) gave contrary findings. In addition, literature is inconclusive with reference to the relationship between default risk and market returns.

II. Literature Review and Hypothesis

The title theory was propagated from the lawful interpretation of contracts as developed by Williamson Evers and Murray Rothbard. The title theory states that the borrower (mortgagor) transfers title of a property to the lender (mortgagee) – who holds title to the property until the mortgage is paid off – at which time title passes to the borrower (Karp & Klayman, 2003). The financier holds title to the property as a collateral and the title is only transferred to the borrower when he/she clears all payments due. However, title of the property remains with the borrower of the mortgage – according to the lien theory. However, the mortgage becomes a lien on the property. In this case, it becomes difficult for the lender to foreclose the property because it does not hold the title to the property (Karp & Klayman, 2003).

Bhattarai (2016) carried out a study in Nepal which sought to determine the influence of credit risk on the financial performance of commercial banks. The study adopted a descriptive and causal comparative form of research design. The study sampled Nepalese banks for the period between 2010 and 2015. The study used the regression model to analyze the financial statements from 14 banks. The findings revealed that non-performing loan ratio has a negative influence of the financial performance of banks.

Similarly, Davis and Zhu (2009) conducted a study that sought to determine the relationship between commercial property prices and bank performance. The study sourced its data from various banks in industrialized economies. The findings revealed that there is a positive relationship between these two variables.

However, study findings revealed that there was a negative relationship between commercial property price and bad loan ratios and net interest margin.

Mayer, Pence and Sherlund (2009) conducted a study which sought to identify the factors that cause a rise in rates of mortgage defaults. The study identified the following as the causes of rise in mortgage default: poor underwriting standards, decline in property prices, and rise in loan-to-value ratios. Mayer et al. (2009) argue that poor underwriting standards are the major cause of rise in mortgage default rate. Consequently, they argue that when mortgage firms implement proper underwriting standards mortgage default rates should decline significantly.

Similarly, Wu, Li and Hong (2017) conducted a study which sought to determine causes of defaults among home mortgages. The study identified the following as the factors which cause default among home mortgage borrowers: terms of lending contract, characteristics of the borrowers, and macroeconomic factors. Wu et al. (2017) argue that mortgage lenders need to adopt effective credit risk management techniques in order to effectively manage their default rate which can adversely affect their profitability.

Ntiamoah et al. (2014) carried out a study which sought to determine the influence of default loan rate on financial institution financial performance. The study adopted by a quantitative and qualitative research design.

Alshatti (2015) conducted a study to determine the influence of credit risk management on the financial performance of Jordanian banks. The study sourced its data from 13 Jordanian banks. The study sourced for panel data from the financial statement reports 2005-2013 of 13 Jordanian banks. A panel regression model was utilized to draw inference from the data collected. The findings of the study reveal that there is a positive relationship between credit risk indicators of non-performing loans on bank profitability. Alshatti (2015) argues that financial institutions should enhance their credit risk management abilities in order to

increase their financial performance.

Canepa and Khaled (2018) conducted a study in a number of countries whose main objective was to identify the relationship between various housing market variables and credit risk. The study identified the following as some of the determinants of credit risk in housing markets: house or real estate prices, financial liberalization, regulations in the property market, and macroeconomic variables. Canepa and Khaled (2018) argue that decline in property prices has the effect of reducing the quality of banks' assets which in turn affect their lending capacity. In addition, decline in property prices has the effect of lowering the value or quality of securities held by financial institutions in terms of real estate. In addition, financial liberalization of the mortgage industry significantly affects both the credit risk of financial institutions and the housing market (Canepa & Khaled, 2018). For instance, financial liberalization within the mortgage industry could result in increased competition, new risky opportunities for mortgage firms, and poor vetting mechanisms for clientele. Regulations in the real estate market in terms of government policy can have adverse effects on real estate and mortgage financing all of which can result in increase in non-performing loans by financial institutions and mortgage firms. According to Canepa and Khaled (2018), expansionary and contractionary business cycles within an economy significantly influence the real estate sector which in turn affects non-performing loans within financial institutions.

The findings of this study revealed that there was no significant relationship between the level of non-performing loans and bank profitability.

On the contrary, Kipyegon and Matanda (2019) conducted a study in Kenya which sought to determine the relationship between mortgage uptake and volatility of interest rates. The study adopted a descriptive form of research design. The target population for the study was 44 commercial banks. The study utilized both primary and secondary data collection techniques to source for data.

The findings revealed that mortgage uptake is significantly influenced by inflation rate, loan demand, and gross domestic product. However, findings revealed that credit risk has an insignificant effect on mortgage uptake.

Empirical literature focuses on the influence of default risk on the financial performance of financial institutions. However, literature is inconclusive with reference to the relationship between default risk and market return.

Methodology

The study adopted a descriptive form of research design. A quantitative research approach was further utilized. The statistical software STATA and SPSS were utilized for statistical analysis.

Default risk in this case was measured using: the non-performing loans ratio. The non-performing loans ratio was measured as the ratio of non-performing residential mortgage loans to total residential mortgage loans and advances.

$$\text{Non - Performing Loans Ratio} = \frac{\text{Non - Performing Residential Mortgage Loans}}{\text{Total Residential Mortgage Loans and Advances}}$$

Below is the representation of the model for the study:

$$Y_i = \beta_0 + \beta_1 X_{1,t} + \varepsilon_i$$

β_1 , represent the specific beta coefficient. X_1 represents default risk. ε_i represents the error term in the model. β_0 represents the constant while Y_i represents market returns. Stock market return refers to the returns that stockholders generate out of securities they hold in the stock market (Johnson, 2014). Knight and Bertoneche (2000) argue that stock market return can be measured in terms of dividends and gains made from changes in stock market prices. In this case, stock market return was measured from stock market prices. Market return was measured using the ratio displayed below.

$$\text{Market Return} = \frac{\text{Ending Price} - \text{Starting Price}}{\text{Starting Price}}$$

III. Findings and Discussions

Table 1: Descriptive Statistics

	N	Mean	Std. Deviation	Coefficient of Variation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Default Ratio	121	.0796	.04219	53.00251	.828	.220	.019	.437
Expected Market Return	121	.0905	.04198	46.38674	.484	.220	.659	.437
Valid N (listwise)	119							

From the findings presented in Table 1, the mean for residential mortgage default risk for the eleven NSE listed mortgage originating firms was 0.0796 with a standard deviation of 0.04219. This suggests that the average residential mortgage default risk for mortgage loans for publicly listed mortgage originators stands at 7.96%. Table 1 further reveals the average for market return for the eleven firms was 0.0905 with a standard deviation of 0.04198. This suggests that the average market return for publicly listed mortgage originators is 9.05%. In addition, the standard deviation results - 0.04219 – suggest that the variation of residential mortgage default risk among public mortgage originators is not overly dispersed. Thus, residential mortgage default risk is a major concern to all publicly listed mortgage originators. Similarly, the standard deviation results for the variation of market return among public mortgage originators - .04198 – is not overly dispersed.

Table 1 further presents the skewness of the residential mortgage default risk

and market return frequency distributions as 0.828 and 0.484 respectively. Deep (2006) argues that symmetric distributions (normally distributed) have a skewness of zero. This suggests that the frequency distribution for default risk and market return does not significantly deviate away from a normal distribution. Findings presented in Table 1 further reveals a coefficient of variation and kurtosis of 53.00251 and .019 respectively.

Table 2: Test of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Default Risk	.229	121	.501	.898	121	.079
Market Return	.227	121	.067	.884	121	.064

Table 2 presents the results for the test of normality for the data collected. Gray (2016) argues that a sig. value of more than 0.05 for the Kolmogorov-Smirnov test signifies normality in a distribution. Thus, the study variables – default risk and market return – had a sig value of more than .05 which suggests that the two study variables were normally distributed. In this light, a panel data regression model could be utilized to analyze the secondary data collected. This is based on the fact that the data collected satisfied the normality assumption in a panel data regression model. In addition, the study carried out a Hausman Specification Test. Based on the results from the test, the Random Effect Panel Model (REM) was utilized.

Conclusion

Study findings reveal that residential mortgage default risk has a significant effect on the market returns of publicly listed mortgage firms. Consequently, mortgage originators should develop strategies of reducing their non-performing loans in order to buffer against variations in their market returns. For instance, mortgage firms can improve their credit rating system to only offer loans to clients with good credit ratings. In addition, mortgage firms can implement the recommendations of the title theory. Mortgage firms can further securitize their

assets and pass the risk to third parties.

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