



Contents lists available at SciVerse ScienceDirect

## North American Journal of Economics and Finance



# Determinants of bank credit default swap spreads: The role of the housing sector

Nadia Benbouzid, Sushanta Mallick\*

Queen Mary University of London, School of Business and Management, Mile End Road, London E1 4NS, UK

### ARTICLE INFO

*JEL classification:*

G01

G15

*Keywords:*

Corporate CDS spreads

Housing market

Credit crisis

Default risk

Liquidity risk

### ABSTRACT

This paper relates credit spreads (CDS prices) in the UK banking sector with the performance of the housing sector. Using data on banking sector CDS spreads for the period January 2004 to April 2011, we find that house price dynamics are a key driving factor behind the increase in credit spreads as reflected in CDS prices. Also we find that as stock prices increase, both bank capital and bank borrowing capacity increase that in turn decreases credit risk. Furthermore as banking sector liquidity increases banks tend to lend to less credit-worthy (subprime) borrowers that in turn increases credit risk in the banking sector. Collectively the results shed light on the determinants of credit risk in the banking sector.

© 2012 Elsevier Inc. All rights reserved.

## 1. Introduction

The period from 2001 and 2006 witnessed low quality underwriting standards and a higher than normal default rate on home mortgages (see Klomp, 2010; Taylor, 2009). Financial engineering as well as securitization allowed banks and other financial institutions to expand their lending while at the same time satisfying regulatory capital requirements. The subsequent mortgage crisis that commenced in the summer of 2007 led to turmoil in the mortgage markets. Large banking corporations and other financial institutions were obliged to write off losses on many of the structured derivatives and securitized assets on their balance sheet. This paper is a study of the relationship between housing prices in the UK and credit spreads in the UK Banking sector.

The sudden and sharp decline in the house prices in the aftermath of the crisis has direct implications for the credit default swap (hereafter CDS spread) of financial institutions. During the period of

\* Corresponding author. Tel.: +44 20 7882 7447.

E-mail addresses: [n.benbouzid@qmul.ac.uk](mailto:n.benbouzid@qmul.ac.uk) (N. Benbouzid), [s.k.mallick@qmul.ac.uk](mailto:s.k.mallick@qmul.ac.uk) (S. Mallick).

credit expansion between 2000 and 2006, credit underwriting standards of mortgage securities were associated with lax supervision by financial authorities. With the continuous rise in house prices and the increasing securitization activities, mortgage lending expanded substantially. As long as the real estate prices increased, lending to lower quality borrowers did not pose a problem for financial institutions as they could always resell houses at a higher price in the secondary market. However, when residential prices drastically plummeted and mortgage rates substantially increased, with borrowers' personal income growth reaching its lowest level, sub-prime mortgages fell in value and resulted in huge financial losses. This caused a rise in both the overall credit risk of the lending institutions and their CDS spread. The CDS market had an outstanding notional amount of \$631.5 billion in 2001 and grew substantially over the following years. However at the end of 2008, due to the financial crisis the market experienced a sharp decline in trading volume and notional amount outstanding (ISDA, 2010).

The CDS spread is usually interpreted as the price of the credit default risk of the underlying asset (Ötoker-Robe & Podpiera, 2010). A CDS contract is similar to insurance contracts, meaning that the buyer of the contract, also referred to as the protection buyer, makes a series of payments, i.e. the spread, to the protection seller of the CDS. In case a credit event occurs, such as a default, a restructuring or bankruptcy of the financial institution involved, the protection buyer is entitled to receive a pay-off from the protection seller. The payment is usually equal to the par value of the underlying asset, typically a bond. If no credit event occurs, the protection seller receives quarterly premium payments (also referred to as the CDS spread) from the protection buyer.

The literature on credit risk, more specifically the CDS spread, focuses on analysing the key structural determinants of CDS spreads. These include the risk free rate and the yield spread, but not the underlying economic factors such as the housing market.<sup>1</sup> The risk free rate and the yield spread are significant factors in explaining the CDS spread (Alexander & Kaeck, 2008; Bevan & Garzarelli, 2000; Duffie & Singleton, 1999; In, Brown, & Fang, 2003; Lekkos & Milas, 2001; Naifar, 2010). Other researchers including Collin-Dufresne, Goldstein, and Martin (2001), Campbell and Taksler (2003), and Benkert (2004) analyse the CDS spread by focusing on firm level data and incorporate financial variables and volatility. Recent research studies the impact of credit ratings on the CDS spreads and demonstrates that it is important in determining the spread at the firm-level (Fabozzi, Cheng, & Chen, 2007; Hull, Predescu, & White, 2004).

With the financial crisis, it became clear that credit risk is not only related to interest rates, yield spread and financial leverage, but most defaults that occurred during the crisis were driven by an underlying factor that is closely related to the house prices. This study investigates whether and to what extent housing sector prices feedback into the financial institution profits and the bank CDS spread. This is a key contribution of our paper, as no previous research has conducted such analysis. We therefore analyse the impact of housing market on the CDS spread in the UK banking sector, along with other factors such as money market yield spreads and the stock market index in the UK.

Three alternative empirical methods are used in this paper to determine the presence of a co-integrating relationship between the variables. We use the Johansen's method and the Dynamic OLS approach (Stock Watson) in order to establish the key determinants of the CDS spread in the long run. We then employ a structural vector-auto-regression (SVAR) model in order to analyse the short term determinants of the CDS spread. The findings suggest that the house price dynamics are a key driving factor behind the recent collapse of corporate CDS market influencing credit risk. Both Johansen's and Stock Watson's methods indicate the presence of a negative relationship between the house prices and the CDS spread. This finding implies that both the banking sector credit market and the housing market are strongly related. Thus, financial distress in the housing market is highly likely to get transmitted to the credit market and impact related markets.

Furthermore, we find a negative relationship between the CDS spread and the yield spread in the long run, implying that as investors demand higher yield to compensate for bearing extra risk, it could reflect lower likelihood of credit default in future. In addition, the FTSE 100 index appears to be positive and significant under the DOLS method. This implies that as the stock index increases, both

---

<sup>1</sup> See for example Hammoudeh and Sari (2011) for sectoral CDS focusing on the financial sectors and examining the linkage of such sectoral CDS with interest rates and stock market only.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات