Credit default swaps (CDSs): an effective tool to manage credit risk of Indian banks
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Abstract
Purpose – Credit default swaps (CDSs) are among the most widely used credit derivatives since their innovation and designed to hedge the credit risk of reference entities. They were exposed after the global financial crisis of 2007–08, and were blamed for its occurrence. This paper aims to describe the fundamental mechanism of CDSs, demonstrating how a CDS contract works. Further, this study explores the growth of the global and Indian CDS market by taking a holistic perspective.
Design/methodology/approach – An objective-driven descriptive research design is adopted to achieve a rigorous and accurate analysis of the study. Therefore, research papers from high-impact journals have been carefully reviewed to achieve the aim of the study.
Findings – The study shows that CDSs are still in their infancy in India. Banks are the primary market makers and users in the Indian CDSs market; therefore, regulatory authorities must assist them to boost the market. For banks to become more confident, they should gain experience and knowledge from other active CDSs markets around the world.
Originality/value – This study attempts to provide insights into the current state of the global as well as the Indian CDS market. Further, this study suggests approaches for the Indian banking sector to play an active role in the Indian CDSs market.
Keywords Banks, CDSs, Credit derivatives, Credit default swaps, Hedging
Paper type Research paper

1. Introduction
Financial derivatives are instruments that are used to manage the risk associated with financial assets such as stocks, bonds and currencies (Atilgan et al., 2016). Among them, credit derivatives were developed to diversify assets’ credit risk exposure. A credit derivative is a contract wherein one party, the protection buyer, makes periodic payments to another party, the protection seller, in consideration for the protection seller covering any losses the protection buyer incurs as a result of the collapse of a credit-risky underlying asset (Ashraf et al., 2007). Credit default swaps (CDSs) are one of the most prominent types of credit derivatives, having been founded by a US bank “J P Morgan” in 1997 with a total notional outstanding of US$180bn (Wu and Dash Wu, 2021; Augustin et al., 2014). About 95% of all credit derivatives owned by US banks are CDSs (Hirtle, 2009; Li and Marinc, 2014). CDSs are financial contracts wherein one or more reference entities’ credit risk is shifted from one entity to another (Mengle, 2007). Banks,
financial institutions and investors can benefit from credit derivatives by being protected from changes in the credit quality of a borrower over time (Neal, 1996).

CDSs are the most widely used credit derivatives worldwide, and are dominated by banks. Insurance companies, financial guarantors, as well as other service providers are also considered to be major participants in the industry. CDSs market is the world’s largest credit risk transfer platform, and it has developed rapidly over the past 20 years. However, it is still on the threshold of its great development. According to an ISDA report from 2001, the notional outstanding amount of CDSs rose from US$632bn in 2001 to over US$45tn in mid-2007, a year-on-year increase of more than 100% (Calistru, 2012). However, the CDSs market is currently experiencing a moderate but consistent expansion. The overwhelming demand for CDSs by financial institutions was evident in this quick development. Indian CDSs were launched in mid-2011, based on the growth of the corporate bond market that reached INR10 lakh crore at that time, signaling the huge potential of a CDSs market in India. To facilitate an active market in CDSs, the Reserve Bank of India (RBI) has taken several steps. When RBI introduced CDSs, it was expected that they will spark a booming corporate bond market, signaling a positive outlook for long-term financing (Jha, 2020). It would be beneficial for Foreign Institutional Investors (FIIs) as investors if the credit risk of investors could be hedged through CDSs. Hence, India needs a vibrant CDSs market that hedges the risks of investors in various industries.

In our study, we set the following objectives: (1) we aim to provide insights into the global CDSs market; (2) we investigate the Indian CDSs market and examine its problems and prospects, with a focus on the banking sector; and (3) CDSs is an important aspect of banking companies’ hedging strategy. In this article, we discuss how Indian banks can incorporate CDSs into their hedging strategy by learning lessons from other CDS markets.

The rest of the article proceeds as follows. In Section 2, we provide an overview of a CDSs contract. Section 3 of the article reviews the extant CDSs literature. A description of the methodology is provided in Section 4. Section 5 provides an overview of the global CDSs market. In Section 6, we look at the CDSs market in India. Section 7 suggests lessons for adopting CDS in India. The article comes to a close in Section 8.

2. Mechanism of credit default swaps
Credit derivatives are one kind of derivatives that are traded over the counter. CDSs are the most common type of credit derivatives (Hirtle, 2009). They are the most liquid type of credit derivatives as well. A typical CDS contract consists of two parties: (1) CDSs seller and (2) CDSs buyer. CDSs buyer obtains credit protection from protection seller in exchange of periodic payments made to protection seller. The periodic payment is known as CDSs spread. At the occurrence of a credit event (occurrence of a credit default), the protection seller makes contingent payment to the protection buyer. Figure 1 depicts how a CDSs contract works.

3. Review of the literature
3.1 Hedging credit risk with credit default swaps
This section reviews the extant literature available on CDSs as an instrument for hedging the exposure of credit risk. Many authors described CDSs as an extensively used instrument for credit risk management. To name a few, Minton et al. (2009) documented that the credit derivative position of large US banks stood for dealer activities rather than for hedging of loans as it was found that the gross notional amount of credit derivatives held by banks is far more than the loan exposure on their books in 2005. The study suggested a careful use of credit derivatives like CDSs for their better implications for the soundness of banks. Further, Augustin et al. (2016) presented an extant and comprehensive review of a vast collection of
CDS-related studies. After reviewing the literature, they concluded that CDSs provide valuable risk-sharing services. Subrahmanyam et al. (2014) have found strong evidence that the bankruptcy risk of reference firms increases after the inception of CDSs trading. Klieber (2012) strongly argued that CDSs are useful instruments to redistribute or hedge credit risk, and they prove to be a valuable instrument for the economy as a whole. They have been defamed and misused, and it is their improper use that is hazardous. In this vein, Calistru (2012) showed that credit derivatives such as CDSs proved to be a significant tool to manage credit risk of underwriters, investors. Similarly, Cong and Phuong (2017) investigated the risk-taking behavior of banks with CDSs and provided evidence to the pre conceived notion that CDSs makes banks sounder. Li and Marinč (2014) investigated the impact of financial derivatives on the systematic risk of US Bank Holding Companies (BHCs). For this purpose, they divide BHCs into large and small BHCs on the basis of their assets size (less vs more than US$50bn). Meng and Ap Gwilym (2007) described the availability of credit ratings and the credit quality of the reference entities in the sample and investigated the profile of the CDSs market by examining the embedded features of CDSs.

Dufey and Rehm (2002) presented a theoretical overview of different kinds of credit derivatives. They stated that among the various types of credit derivatives being used in the global markets, CDS constitutes 70% of the total market, followed by total return swaps (TRS) which has a market share of 15%. Likewise, Batten and Hogan (2002) presented a theoretical perspective on distinguished features and issues that are linked with the different instruments available in the credit derivatives market. Further, Freeman et al. (2006) reviewed a number of academic and practical papers and presented some simple numerical examples of credit derivatives like CDSs and interest rate swaps for their application. Similarly, Vasudev (2013) reviewed the procedures and amendments of Dodd–Frank Act post-financial crisis, and in addition, the article explored the mechanism and operation of collateralized debt obligations (CDOs), synthetic CDOs and CDSs.

### 3.2 Literature emphasizing Indian credit default swaps market

The study undertaken by Ashutosh (2017) documented the glimpse of CDSs in the Indian banking sector. This study attempts to explain the essence and significance of CDSs in India. Anthony (2013) theoretically explained the working and growth of CDSs over the years and the relevance that CDSs has made in over-the-counter (OTC) derivatives market. Moreover, she studied the relevance of clearing houses in CDSs market and finally investigated the
CDSs market in India. Theoretically, Guru (2010) examined the importance of credit derivatives, in particular, CDSs, in strengthening the banking industry of an economy. The study further depicts the role of CDSs in global financial crisis. With a similar approach, Dey and Dey (2014) studied the status of debt and credit derivatives market in India. They advocated that OTC derivatives, mainly CDSs, are the most sophisticated products to transfer credit risk, but at the same time, they were conceived as the culprit of sub-prime crisis. Baral (2015) presented a hypothetical case of CDSs to minimize the credit risk of the banking industry of India, as there is no well-functioning credit derivatives market currently exist in India. The study showed that how CDSs market will work in Indian banks if they trade in CDSs to diversify their credit risk exposures.

4. Research methodology
The study was conducted in a descriptive manner. Descriptive research can be defined as a statement of the current state of affairs, with the researcher having no control over the factors. Furthermore, “descriptive studies may simply be defined as the attempt to determine, describe, or identify what is there.” An objective-driven descriptive research design is adopted to achieve a more rigorous and accurate analysis of the study. Therefore, research papers from high-impact journals have been carefully reviewed to achieve the aim of the study. In addition, we also extracted reports of central authorities to analyze the present state of Indian CDSs market. Articles from business papers were also examined.

5. The global credit default swaps market
The CDSs market has grown from a very small market. It emerged as the world’s greatest platform to hedge the credit risk. The market size of credit derivatives was just US$180bn in 1996. Its rapid growth was observed between the period of 2000 and 2008 (Figure 2).

The survey report of British Banker’s Association (BBA) (2006) showed the explosive growth of credit derivatives market. The actual market size of credit derivatives stood at

![Credit Derivatives](image-url)

**Figure 2.** Market data for credit derivatives

Source(s): British Bankers Association (2006)
US$20tn, which was witnessed by the end of 2006. The market for credit derivatives developed exponentially during this period. The CDSs market collapsed from the peak of US$62.2tn and faced a severe depression after the global financial crisis. The CDSs market began to rise gradually in 2011, and eventually reached a peak. Presently, the US and European developed countries are the largest market of CDS. Japan and other Asian countries hold a significant share of the market. Table 1 depicts the notional amounts outstanding of CDSs contracts around the world by the location of counterparties.

### 6. Indian credit default swaps market

The RBI devised a stringent set of guidelines. These regulations were created to avoid the mistakes committed during the financial crisis, as well as to avoid the issue of costly debt (corporate and sovereign) experienced in Europe. CDSs were initially discussed in India by the RBI in 2003. The advent of the global financial crisis in 2007–2008 delayed the implementation of CDSs in India. In 2011, the RBI again issued the guidelines to introduce CDSs on the corporate bonds. It became necessary to deal in plain vanilla single-name CDSs. On December 6, 2011, India’s embryonic CDS market began with two transactions totaling INR100m (US$1.9m) in bond value. According to the documents on the Clearing Corporation of India Ltd website, the deals, both one-year trades between ICICI Bank and IDBI Bank (underwriter), were at 90 basis points and involved INR50m each of ten-year bonds issued by Rural Electrification Corporation (REC) and India Railway Finance Corporation [1].

<table>
<thead>
<tr>
<th>H1 2021</th>
<th>All locations</th>
<th>Home country</th>
<th>Total</th>
<th>USA</th>
<th>European developed countries</th>
<th>Abroad</th>
<th>Home country</th>
<th>Total</th>
<th>USA</th>
<th>European developed countries</th>
<th>Abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>8,813</td>
<td>2,136</td>
<td>6,438</td>
<td>1,981</td>
<td>3,848</td>
<td>84</td>
<td>72</td>
<td>245</td>
<td>209</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bought</td>
<td>5,147</td>
<td>1,206</td>
<td>3,807</td>
<td>1,074</td>
<td>2,357</td>
<td>67</td>
<td>48</td>
<td>138</td>
<td>124</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sold</td>
<td>4,778</td>
<td>1,132</td>
<td>3,518</td>
<td>1,024</td>
<td>2,210</td>
<td>54</td>
<td>33</td>
<td>108</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With reporting dealers</td>
<td>1,112</td>
<td>202</td>
<td>887</td>
<td>117</td>
<td>718</td>
<td>37</td>
<td>9</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bought</td>
<td>1,131</td>
<td>202</td>
<td>909</td>
<td>119</td>
<td>736</td>
<td>40</td>
<td>8</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sold</td>
<td>1,093</td>
<td>201</td>
<td>865</td>
<td>114</td>
<td>701</td>
<td>35</td>
<td>10</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With non-reporters</td>
<td>7,701</td>
<td>1,935</td>
<td>5,551</td>
<td>1,864</td>
<td>3,130</td>
<td>46</td>
<td>63</td>
<td>244</td>
<td>204</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bought</td>
<td>4,016</td>
<td>1,004</td>
<td>2,898</td>
<td>955</td>
<td>1,621</td>
<td>27</td>
<td>40</td>
<td>137</td>
<td>119</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sold</td>
<td>3,685</td>
<td>931</td>
<td>2,653</td>
<td>909</td>
<td>1,509</td>
<td>19</td>
<td>23</td>
<td>107</td>
<td>85</td>
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</table>

**Source(s):** Bank for International Settlements
Following that, to bolster the Indian CDSs market, the RBI issued new guidelines in 2013, with the goal of making India a dynamic CDSs market. For a long time, the Indian financial market has been in need of credit risk management. It is necessary to have a solid mechanism in place to help manage its credit risk. As a result, the RBI has always made an effort to assist the Indian financial industry, particularly the banking industry, in managing its credit risk exposure. In 2021, the RBI issued instructions to ensure that Indian banks begin buying and selling CDSs (RBI, 2021).

7. Lessons for Indian banking sector to adopt credit default swaps
For the Indian banking sector to embrace CDSs, the following lessons must be learned from other active CDSs market around the world. First, to hedge their credit risk, banks need to understand the importance of including CDSs in their risk management strategy as banks are doing in other parts of the world (Shan et al., 2021). For example, the USA and Europe constitute the world’s largest CDS market. The time is ripe for Indian banks to enter the market to take advantages CDSs offer to their clients. Second, regulators must ensure that banks, being the largest market makers and users of CDSs, are aware of the benefits and drawbacks of dealing in CDSs (González et al., 2012). Consequently, they will be more motivated to participate actively in the market. Third, since CDSs products are traded OTC, regulators must monitor CDSs transactions through a repository, such as the Central Clearing Corporations of India (CCIL) so that malpractices in trading can be avoided. Fourth, the Indian banking sector must realize that if banks are in financial distress, hedging credit risk through CDSs is one way to get out of the situation. In both the USA and European markets, there is evidence of the same. Fifth, banks, being the seller of CDSs as well, must exploit opportunities to generate revenue by selling risk management services. This will become a part of their non-interest income and provide them with a significant amount of money.

8. Conclusion
With an impressive and short history, CDSs have grown exponentially over the past two decades. There is little understanding of the reasons that drive banks to use these products and if their use increases risk exposure for them or whether it is beneficial for them. The primary motivation for this attempt was to analyze these aspects. If the RBI truly wants banks and other institutions to actively engage in the CDSs market and also wishes to see a flourishing market for credit derivatives in India, with the potential advantages of hedging risk and maximizing investments in corporate bonds. Then, it needs to put more emphasis on regulations that ensure trustworthiness while also allowing tradable CDSs in the market to increase liquidity within the CDSs and corporate bond market, allowing for better hedging and a bond markets that accurately represents risk.

Note
1. First CDS deal in India at https://www.reuters.com/article/india-cds-idINDEE7B60C920111207.

References


Further reading


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