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Does central clearing benefit risky dealers?

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ABSTRACT

We study the effect of the first introduction of central clearing to the credit default swap market using a data set of intraday quotes sent directly by the major dealers to the market. We find the event to eliminate counterparty risk and improve price information. Furthermore, we find riskier dealers to increase their trading activity. In fact, after the elimination of their counterparty risk premium they increase the number of competitive quotes both on the bid and ask sides but more pronounced on the ask side.

1. Introduction

We study the effect of the first introduction of central clearing to the credit default swap market using a unique data set of intraday quotes. Central clearing was pushed by regulators in the aftermath of the financial crisis as an attempt to reduce risks steaming from the $60+ trillion market. For that aim, we use a dataset of intraday quotes directly sent by the major CDS dealers to the market and focus on the highly liquid and most widely traded CDS indices, which are the first contracts to be centrally cleared. We confirm previous findings from the less liquid and lower volume single-name CDS space: Central clearing improves informational efficiency and eliminates counterparty risk. In addition, we see riskier dealer to react most pronounced to the market's change. These dealers increase their quoting activity and change their pricing behavior. In fact, after the elimination of their counterparty risk premium they increase the number of competitive quotes both on the bid and ask sides but more pronounced on the ask side. The activity increase can thereby potentially harm the system's stability.

Credit derivative indices consist of the most liquid single-name contracts. Unlike equity indices, which are commonly weighting constituents with their relative market capitalization, CDS indices trade independently of the underlying. Regarding a possible default of any of the constituents, however, they provide pro-rata protection. Using CDS indices market participants can trade higher volumes and become opaque from possible allegations when providing primary credit to an obligor[1]. The trading volume in credit indices is roughly ten-fold of the sum of single-name contracts, according to DTCC, a

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[1] The situation in which a bank's trading desk buys credit protection on the same issuer the loan book issues a new credit to, is difficult to explain to corporate clients. Anecdotal evidence from market participants suggests that hedging single-name loans often the index position is used instead. For

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major market's warehouse provider[2]. Thus, when focusing on the CDS market it is appropriate to explore indices as main source of the market's liquidity.

A major concern for market participants during the financial and sovereign debt crisis is counterparty risk. This becomes more relevant after the defaults of CDS dealers (Bear Stearns, Lehman Brothers and Merrill Lynch) as the concentration in the CDS markets to only a few dealers increased[3]. When purchasing an over-the-counter (OTC) contract the buyer of the contract does not have full information about the seller's quality, the counterparty risk. Even worse, during the duration of the CDS contract, typically five years for the on-the-run contract, the buyer is exposed to the seller's potentially deteriorating credit risk. Arora et al. (2012) show the market to price counterparty risk at modest levels in single-name contracts for non-financial single-name CDS contracts.

When CDS are negotiated in an OTC market counterparty risk is mitigated by posting collateral. In a sense the buyer could distinguish the counterparty risk of different dealers, but due to the collateral considers the risk as mitigated. With the financial crises' defaults, this view changed and market participants find their collateral to be worth less than expected and the counterparty risk to be quite relevant. As a response to these developments regulators introduce a central counterparty (CCP) and initially appoint the Intercontinental Exchange ICE with the clearance of several CDS contracts. The first CDS index to be cleared in the US was the CDS investment grade (IG) index, series 11 on April, 17th 2009, cf. Acharya et al. (2010) for an overview. After central clearing is installed, it leaves market participants with virtually no counterparty risk of the dealer, but only their plain default risk[4]. The collateral is now not exchanged between the parties of the contract, but instead margins are posted to the clearing members, including an initial margin as well as maintenance margins.

Several aspects of switching from an OTC to a central clearing are discussed in the literature. Loon and Zhong (2014) explore the effect of central clearing to single-name contracts and find the correlation between their spread and dealer's credit risk weakens after the CCP. While we share some of the objectives pursued in that paper, our approach differs in several aspects. We focus on the liquid CDS indices instead of single-name contracts, which are often traded at a low to zero volume, since a counterparty's default affecting widely traded contracts would be more harmful for the market than a low liquid traded contract type. Furthermore, we examine the first introduction of central clearing to the market, single-names were cleared at a later stage. Lastly, contrary to previous studies, our dataset contains the specific quote of each dealer quoting CDS prices and thus enables us to measure the effect directly from the origin of quotes. Previous studies rely on generic quotes, which are averages over all dealers. We confirm that central clearing eliminates counterparty risk.

Since central clearing acts as a certification facility it should improve informational efficiency. Nicolo and Pelizzon (2008) regard credit derivatives as a vehicle to signal a bank's private information about loans and their structuring to the market and Duffee and Zhou (2001) see CDS as a vehicle to "circumvent the lemons problem" due to the banks superior information about their loan's quality. Both the seller of CDS protection as well as the poster of collateral potentially has superior information about the assets. Previous papers focus on the informational channel between the credit (loan or bond) and the bank. We add to this literature by exploring the informational changes facilitated by central clearing on the signals CDS dealers send to the market by means of their quotes on major indices. Concretely, we document an improvement in informational efficiency in the CDS indices after being centrally cleared.

Finally, our paper contributes to the literature documenting that the enhancement in terms of counterparty risk and information caused by central clearing could lead to an increase in the market activity of riskier dealers. In fact, we document an increase in the number of competitive quotes from riskier dealers both on the bid and ask side, being the increase more pronounced on the ask side. The higher quoting activity could originate a higher contribution of their institutions to the level of systemic risk through the potential default of the central counterparty.

The remainder is organized as follows. Section 2 introduces the data set and describes the markets main characteristic during the observation period. Section 3 presents the research hypotheses, while Section 4 contains the methodology and results and Section 5 concludes.

2. Dataset

Our analysis focuses on the first introduction of central clearing to the CDS market. After the Dodd–Frank Act clearing of instruments classified as "clearable swap" became mandatory and only clearing members, so called Futures Commission Merchants FCMs, are allowed to have a direct relationship with the central counterparty.

Our dataset contains individual quotes sent directly from dealers to market participants over the Bloomberg Professional Terminal System. Messages over Bloomberg, which is market leader in financial data provision, are the major distribution

example buying a contract of $250 million in the US investment grade index CDX IG is a rather usual ticket size, but offers a $2 million (=$250 divided by 125 index constituents) protection against any single-name default in the index.

[2] In the week prior to the introduction of central clearing in the US CDS index market, which we explore in this paper the activity in all single-name contracts sum up to $9.38 bn while the investment-grade CDS indices' is at $108.74 bn. (dtcc.com).

[3] In the first quarter of 2009 the top five dealers JP Morgan, Goldman Sachs, Morgan Stanley, Deutsche Bank and Barclays accounted for 96% of all credit derivatives exposures in a survey conducted among one hundred firms and the same banks were counterparties to nearly 50% of all outstanding notional (European Central Bank, 2009).

[4] Note that this does not imply a reduction of the system risk per se, as Duffie and Zhu (2011) show losing the cross-product netting from the OTC market can increase the system risk