



Counterparty risk externality: Centralized versus over-the-counter markets [☆]

Viral Acharya ^{a,b,c,*}, Alberto Bisin ^{d,c}

^a NYU-Stern, United States

^b CEPR, United Kingdom

^c NBER, United States

^d NYU, United States

Received 31 December 2011; final version received 4 October 2012; accepted 17 April 2013

Available online 11 July 2013

Abstract

We study financial markets where agents share risks, but have incentives to default and their financial positions might not be transparent, that is, might not be mutually observable. We show that a lack of position transparency results in a *counterparty risk externality*, that manifests itself in the form of excess “leverage,” in that parties take on short positions that lead to levels of default risk that are higher than Pareto efficient ones. This externality is absent when trading is organized via a centralized clearing mechanism that provides transparency of trade positions. Collateral requirements and especially subordination of non-transparent positions in bankruptcy can ameliorate the counterparty risk externality in market settings such as over-the-counter (OTC) markets which feature a lack of position transparency.

© 2013 Elsevier Inc. All rights reserved.

JEL classification: G14; G2; G33; D52; D53; D62

Keywords: Counterparty risk; Leverage; Transparency; Centralized clearing; Collateral; OTC markets

[☆] We are grateful to Rob Engle for insightful discussions. We also gratefully acknowledge comments from Karl Shell, the anonymous associate editor, the referee, Eric Ghysels, Martin Oehmke, Marco Pagano (discussant), Oren Sussman, and seminar participants at the Federal Reserve Bank of New York, Econometric Society Meetings in Atlanta (2010), NYU-Stern Finance Brown Bag Seminar, Macroeconomics Workshop at NYU Economics, University of Michigan, University of British Columbia and Stanford Macroeconomics. We received excellent research assistance from Rustom Irani and Hanh Le.

* Corresponding author at: NYU-Stern, United States.

E-mail addresses: vacharya@stern.nyu.edu (V. Acharya), alberto.bisin@nyu.edu (A. Bisin).

1. Introduction and motivation

An important risk that needs to be evaluated at the time of financial contracting is the risk that a counterparty will not fulfill its future obligations. This counterparty risk is difficult to evaluate because the exposure of the counterparty to various risks is generally not public information. Contractual terms such as prices and collateral that affect a trade can be tailored to mitigate counterparty risk, but the extent to which this can be achieved, and how efficiently so, depends in general on how contracts are traded.

Consider a market in which each party trades with another, subject to a bankruptcy code that determines how counterparty defaults will be resolved.¹ A key feature of many such markets, for instance of OTC markets, is their *opacity*. In particular, even within a set of specific contracts, for example, credit default swaps (CDS), no trading party has full knowledge of positions of others.² We show theoretically that such opacity of exposures, or the lack of position transparency, leads to an important risk spillover – a *counterparty risk externality*³ – that, in turn, leads to excessive “leverage” in the form of short positions that collect premium upfront but default ex post. Such excessive leverage results in inefficient levels of risk-sharing and in deadweight costs of bankruptcy.

Counterparty risk externality is the effect that the default risk on one contract will be increased if the counterparty agrees to any contract with another agent which increases the probability that the counterparty will be unable to perform on the first one. This is typically the case, for instance, if all else equal (that is, without any increase in its endowments), a counterparty that has sold insurance sells more insurance to other agents. Put simply, the default risk on one deal depends on *what else is being done*. The intuition for our result concerning the counterparty risk is that an externality arises when portfolio positions are not transparent. In this case, counterparties cannot charge price schedules that effectively penalize the creation of inefficient levels of counterparty risk. This makes it likely that excessively large short positions will be built by some institutions without being discouraged to do so by pricing or risk controls tied to their overall positions.

For example, in September 2008, it became known that A.I.G.’s liquidity position was inadequate given that it had written credit default swaps (bespoke CDS) for many investors guaranteeing protection against default on mortgage-backed products. Each investor realized that the value of A.I.G.’s protection was dramatically reduced on its individual guarantee. The counterparty risks were so widespread globally that a default would probably have spurred many other defaults, generating a downward spiral. The A.I.G. example illustrates the cost that large non-transparent exposures can impose on the system when a large institution defaults on its obligations. We argue that the opacity of the OTC markets in which these credit derivatives traded may in part have been responsible for allowing the build-up of such large exposures in the first place. Indeed, a number of financial innovations in fixed income, foreign exchange, and credit markets have traded until now in non-transparent markets, the (gross) global notional outstanding

¹ The contract may adhere to a uniformly applicable corporate bankruptcy code, or when the contract is exempt from the code, the bankruptcy outcome may be specified in the contract.

² CDS contracts do effectively reflect counterparty risk as collateral arrangements embedded in the contracts depend on counterparty risk (credit rating, for example). Nevertheless, such collateral arrangements are bilateral and do not depend on the aggregate position of the counterparty.

³ The term “counterparty risk externality” is as employed by Acharya and Engle [2]. A part of the discussion below, especially related to A.I.G. is also based on that article.

Download English Version:

<https://daneshyari.com/en/article/956715>

Download Persian Version:

<https://daneshyari.com/article/956715>

[Daneshyari.com](https://daneshyari.com)