

The 2nd International Conference on Complexity Science & Information Engineering

Inherent Conflicts in Risk Allocation, Complexity of Financial Engineering, and Fragility of CRT Markets

Zhao Zheng *

Wuhan University, Luojia Hill, Wuhan 430072, China

Abstract

There are conflicts between risk sharing and incentive provision in financial contracting under information asymmetry. Efficient risk allocation is appropriate risk sharing subject to incentive constraints. Credit risk transfer changes incentive structure of financial contracts and has dilution effect on incentive of risk seller. Contract design and reputation discipline may reduce moral hazard but cannot eliminate it. Furthermore, the complexity of structured products created through financial engineering along the risk transfer chain makes the markets very opaque, which magnifies the information problems to the extreme. The inherent fragility of CRT markets provides an important role for regulation to improve risk allocation.

© 2011 Published by Elsevier Ltd. Selection and peer-review under responsibility of Desheng Dash Wu.
Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Keywords: risk allocation; contract design; inherent conflicts; CRT markets; financial engineering

1. Introduction

Traditionally, credit risk has been transferred through guarantees and insurance for a long time. In recent years many innovative tools of credit risk transfer (CRT), especially loan securitization and credit default swap, have been widely used. Their core values lie in providing more risk-sharing opportunities, which may not only enable financial institutions to diversify risk more conveniently, but also improve credit availability for entrepreneurs and households. However, owing to the break-out of subprime crisis, CRT markets have been put under the spotlight. There is growing literature which focuses on the negative impacts of CRT on resource allocation and financial stability. Some researchers point out that risk transfer may induce loan originators to reduce monitoring of borrowers (see Morrison 2001, Duffee and Zhou 2001, Behr and Lee 2004, Partnoy and Skeel 2007). Keys et al. (2008), Downing (2008), and Amromin and Paulson (2009) empirically show that securitization leads to a decrease in loan quality.

Based on previous researches, a deep analysis of the key problem of risk allocation is required to explain the above questions. My paper offers a perspective on the links between contract design theory and CRT mechanism. The focus of this paper is on the conflict between risk sharing and incentive provision in financial contracting and the magnification effect of complexity of financial engineering on

* Corresponding author. Tel.: 13971108962
E-mail address: lilac-zhao@163.com

incentive misalignment. If innovations of CRT lead to excessive risk sharing between risk buyers and sellers, the incentive structure of financial contract will be distorted, which may cause a series of negative influences on financial stability. Although these effects may be partly mitigated by contract design and reputation discipline (Gorton and Haubrich 1987, Chiesa 2008, Fender and Mitchell 2010), the inherent fragility in CRT markets cannot be eliminated. In addition, complexity of structured products created through financial engineering makes the markets more opaque, which magnifies the information problem throughout risk transfer chain. Accordingly, the imperfection of markets provides an important role for regulation to improve risk sharing.

The rest of this paper is organized as follows. Section 2 explores dual motivations of risk allocation and their conflicts. Section 3 proposes rule of optimizing risk allocation and constraints of risk sharing. Section 4 analyses conflicts in CRT transaction and incentive dilution. Section 5 explores limitations of endogenous incentive optimization in CRT markets. Section 6 describes how complex financially engineered structures lead to information loss and magnify incentive distortion. Section 7 concludes.

2. Conflict between dual motivations for risk allocation in contract design

There are two branches in contract design theory : risk-sharing paradigm emphasizes that contract arrangement should be based on risk preference of both parties, aiming to attain Pareto- Optimality of risk sharing, whereas risk-neutral transaction-cost approach focuses on how to reduce agency cost by providing sufficient incentive to agents. In real world, contract choice is driven by both the motivations for risk allocation and faces a trade-off between risk sharing and incentive provision.

2.1. Motivation of risk sharing

We first consider an extreme scenario: the outcome of contract is affected by uncertain future state of nature and actions of one party and there is no information asymmetry. That implies moral hazard doesn't exist. In such context, risk allocation between parties is simply driven by risk sharing motivation. The goal of an optimal allocation of risk is to maximize expected utility of both parties by sharing risk and thereby adjusting their risk position. When there is heterogeneity between the parties' risk attitudes and risk perception, risk sharing will be desirable. If impacts of a risk event on the parties are not positively correlated, they are also willing to share risk.

2.2. Motivation of incentive provision

Now consider another extreme situation: both parties are risk neutral and have the same risk perception, while there exists information asymmetry between them. One party may damage the other's benefit, but his choice of actions is unobservable or monitoring cost is expensive. Accordingly, incentive provision is the only driving force of risk allocation. To achieve incentive compatibility, the principal may let the agent assume some risk. Exposed to potential bankruptcy cost , the agent will become quasi-risk averse and choose to act on behalf of both parties.

2.3. Conflict and tradeoff between two motivations

In real world, uncertainty and information asymmetry usually exist side by side. So risk allocation is driven by the dual conflicting motivations. Pareto-optimal risk sharing might be unable to induce proper incentives for taking correct actions. Excessive risk sharing will lead to insufficient incentive provision, which means the agent's cost of taking risk doesn't exceed expected earnings of his opportunism behaviors. On the other hand, overemphasizing incentive provision may result in excessive risk taking. If the agent is forced to bear too much risk beyond tolerance, his expected utility of entering into the

متن کامل مقاله

دریافت فوری ←

ISIArticles

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