



Contents lists available at SciVerse ScienceDirect

## International Review of Financial Analysis



## Review

## Securitization and systemic risk: An empirical investigation on Italian banks over the financial crisis

Francesca Battaglia <sup>a,\*</sup>, Angela Gallo <sup>b,1</sup><sup>a</sup> Dipartimento di Studi Aziendali, Università Parthenope, Via Medina 40, 80133 Napoli, Italy<sup>b</sup> Dipartimento di Studi e Ricerche Aziendali, Università degli Studi di Salerno, Via Ponte don Melillo, 84084 Fisciano (SA), Italy

## ARTICLE INFO

Available online xxxx

JEL classification:

G01  
G12  
G21  
G32

Keywords:

Securitization  
Expected shortfall  
Systemic risk  
Marginal expected shortfall

## ABSTRACT

This research examines the effects of securitization on the bank's risk exposure both in terms of individual expected shortfall and marginal expected shortfall as a measure of systemic risk. The relationship between securitization activity and tail risks is especially relevant in light of the consequences for financial stability, both for the individual securitizing banks and for the market as a whole, as the financial crisis 2007–2008 reveals. By using a sample of Italian listed banks over the period 2000–2009, we find that securitizing banks have, on average, higher expected losses in case of extreme events. This adds new evidence on the main findings in the literature that focused on the evidence that risk transfer through securitization is relatively insignificant compared to the risk retained by the originating bank. We show that this risk retention is in terms of an increase of tail risk. We also find that securitization increases the probability of banks to become “systemically” riskier, but we find no difference when comparing the pre-crisis with the post-crisis period. This suggests that the systemic exposures of Italian banks are still as high as before the crisis with severe implications for financial stability.

© 2013 Elsevier Inc. All rights reserved.

## Contents

1. Introduction . . . . .	0
2. Literature review. . . . .	0
2.1. Securitizing banks and systemic risk . . . . .	0
2.2. Systemic risk measures . . . . .	0
3. Estimation framework, data and variables . . . . .	0
3.1. Estimation framework . . . . .	0
3.2. Sample and data. . . . .	0
3.3. Variables . . . . .	0
3.3.1. Key independent variables: securitization dummy and previous securitization dummy . . . . .	0
3.3.2. Dependent variables: tail and systemic risks . . . . .	0
3.4. Control variables . . . . .	0
4. Empirical analysis and results. . . . .	0
5. Further analysis . . . . .	0
6. Conclusions . . . . .	0
Appendix A. Correlation matrix for the explanatory variables of Model 1 and Model 2. . . . .	0
References . . . . .	0

\* Corresponding author. Tel.: +39 0815474852.

E-mail addresses: francesca.battaglia@uniparthenope.it (F. Battaglia), angallo@unisa.it (A. Gallo).

<sup>1</sup> Tel.: +39 089963122.

## 1. Introduction

In recent years, banks have impressively increased their risk transfer activities, both through the use of credit derivatives, mostly in the form of Credit Default Swaps (CDS) allowing them to trade credit risks on a variety of exposures, and through the use of the securitization by transferring pools of loans from their balance sheet to third-party investors.

The number of securitization deals has been exponential both in the US and outside the US, recording strong growth rates in Asia and Europe (see [European Central Bank, 2008b](#); [Lejot, Arner, & Schou-Zibell, 2008](#)). The macroeconomic factors behind this expansion can be recognized, among others, in financial market globalization, technological and financial innovation, and a general trend towards market-based financial systems. At the banking system level, the Basle II process prompted the implementation of sophisticated pricing models for credit risk and led to a further development of securitization activity ([Berger, Bouwman, Kick, & Schaeck 2010](#); [Berger, Molyneux, & Wilson 2010](#)). However, the credit crisis that broke out in 2007 severely affected the market and caused a large decline in securitization activity.

It is worth mentioning that the main reason behind the use of transfer risk activity (CRT) by banks is to move risk to less fragile institutions and to diversify away from concentrated exposures. The severity and width of the current crisis indicate that these risk transfer activities have increased risks in at least some parts of the financial system, and questions arise about the effect on the stability of the financial system. Although a properly done transfer of risk should reduce banks' risks ([Instefjord, 2005](#); [Wagner, 2007](#)), it still remains an empirical question as to whether CRT increases or reduces a bank's risk exposure. On one hand, securitization and credit risk transfer techniques allow banks to shift risks outside their balance sheet as well as to achieve portfolio and funding diversifications more easily ([European Central Bank, 2008](#)). On the other hand, CRT could also lead banks to take on additional and excessive risks whether by using the funding obtained from securitization to grant riskier credits or simply by acquiring credit risk more easily on the market. Banks may also end up being riskier because they fail to effectively transfer the risk. This is due to the fact that a bank keeps the riskiest tranche in a securitization, or because of guarantees (explicit or implicit) given to securitization vehicles.

The literature has widely investigated the securitization techniques and the main rationale behind the banks' decisions to securitize as to obtain additional funding, to transfer risk to third-party investors, to generate fee income, to manage profits, and to minimize regulatory capital requirements (among others, [Allen & Carletti, 2006](#); [Ambrose, LaCour-Little, & Sanders, 2005](#); [Krahnert & Wilde, 2006](#); [Jeffrey, 2006](#); [Allen, Carletti, & Marquez, 2011](#)). This research focuses on the impact of securitization on banks' risk profile relating to risk transfer, particularly relevant in the years prior to the financial crisis.

In this research, we examine the relationship between securitization activity and banks' risk profile over the period 2000–2009 for a sample of Italian listed banks. The objective is to explore whether the securitization has effectively affected the risk exposure of the securitizing banks by transferring risk to third-party investors and, at the same time, whether the credit risk transfers within the overall banking system has increased securitizing bank's expected contribution to systemic risk in the pre and post-2007 financial turmoil.

The most common measure of risk used by financial institutions is the value at risk (VaR) that focuses on the risk of an individual institution in isolation. Recent papers have stressed the limit of VaR measures, especially in the recent financial crisis because it failed to pick up potential "tail" losses in the AAA-tranches. Therefore, as a first measure of firm level risk, we focus on expected shortfall (ES) because it is coherent and more robust than VaR. Next to this, to investigate whether the credit risk transfers within the banking systems worsen the financial stability, we need to consider a proper measure of systemic risk. According to the classification in [Brunnermeier et al. \(2009\)](#), a systemic risk measure should identify the risk to the system by "individually systemic"

institutions, which are so interconnected and large that they can cause negative risk spillover effects on others, as well as by institutions that are "systemic as part of a herd." A group of 100 institutions that act like clones can be as precarious and dangerous to the system as the large merged identity ([Adrian & Brunnermeier, 2008](#)). As a measure of systemic risk, we decide to adopt the marginal expected shortfall (MES) defined by [Acharya, Pedersen, Philippe, and Richardson \(2010\)](#) as a measure of systemic risk. By comparing the results on the individual banks' ES and MES, we try to investigate the "tail" effects of the securitization with respect to the single institution's risk profile and its expected contribution to systemic risk, respectively.

The research contributes to the empirical literature on asset securitization and bank risks in several respects. First, the time horizon under investigation allows us to shed light on the relationship between securitization and banks' risk exposures including the 2007–2009 crisis, so that we can explore potential changes in systemic risk after the crisis broke out. The turmoil has illustrated how securitization could lead to financial instability by contributing to an increase in the occurrence of banking crises. In fact, the question as to whether securitization increases or reduces a bank's risk exposure is especially relevant because one of the key consequences of this technique refers to its effect on risk sharing between banks and markets, and thus, on systemic risk. In other words, the impact of securitization activity on a bank's incentive towards risk taking could have significant implications for financial stability ([Rajan, 2005](#)). At the moment, the effect of the credit securitization on financial stability remains an open issue also for regulators. Since 2011, the Basle Committee has been imposing stricter requirements on securitization in terms of transparency, valuation and risk disclosure to overcome one of the main criticisms against the Basle II framework that was only taking into account each institution's risk seen in isolation.

Secondly, differently from previous literature that used the beta as a measure of systematic risk but also as a proxy of systemic risk, we use the expected shortfall (ES) as a measure of the banks' risk exposure in the extreme events and the marginal expected shortfall (MES) as a measure of systemic risk. To our knowledge there are no previous studies employing these risk measures referring to securitization.

Third, despite the importance of the Italian securitization market, that from 2001 to 2006 has become the European country with the second-largest issuance volume after the UK, there is a research void on it compared to other European countries. Regarding the Italian securitization market, to date, [Agostino and Mazzuca \(2011\)](#) are the only authors who have analyzed the securitization determinants in the Italian market. More in general, there are still few studies that refer to single European countries ([Cardone-Riportella, Samaniego-Medina, & Trujillo-Ponce, 2010](#); [Martínez-Solano, Yagüe-Guirao, & López-Martínez, 2009](#), both considering the Spanish market). In the light of these considerations, we believe it is worth considering other geographical contexts with differently developed capital markets and banking system structures and, in the case of Italy, with specific systemic implications.

We find that securitizing banks have, on average, higher expected losses in case of extreme events than banks not active in this market. This adds new evidence on the main finding in the literature that showed evidence that risk transfer through securitization is marginal when compared to the risk retained by the originating bank. The results support the evidence that this risk retention implies an increase of tail risk. Moreover, we find that the relationship between securitization and ES was unaffected by the financial turmoil that started in 2007 and that originating banks experienced a higher systemic risk (MES) than other banks not active in this market, both prior and post the 2007-crisis.

The remainder of the paper is organized as follows. In [Section 2](#), we analyze the relevant literature. In [Section 3](#), we describe the estimation framework, sample and data, and variables. In [Section 4](#), we present and discuss the empirical analysis and its results. In [Section 5](#), we describe the robustness tests and [Section 6](#) concludes.

Download English Version:

<https://daneshyari.com/en/article/5084961>

Download Persian Version:

<https://daneshyari.com/article/5084961>

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