Research in International Business and Finance 32 (2014) 83–105

Contents lists available at ScienceDirect

Research in International Business and Finance

journal homepage: www.elsevier.com/locate/ribaf

The effects of news events on market contagion: Evidence from the 2007–2009 financial crisis

Thanaset Chevapatrakul[a], Kai-Hong Tee[b,*]

[a] Nottingham University Business School, United Kingdom
[b] Loughborough University, School of Business and Economics, United Kingdom

ARTICLE INFO

Article history:
Received 12 October 2013
Accepted 3 March 2014
Available online 26 March 2014

Keywords:
C01
C22
C31
C51
C58
G01

Keywords:
Credit crisis
Coexceedance
Quantile regression
News events
Risk perception

ABSTRACT

In this paper, we use the quantile regression technique along with coexceedance, a contagion measure, to assess the extent to which news events contribute to contagion in the stock markets during the crisis period between 2007 and 2009. Studies have shown that, not only the subprime crisis leads to a global recession, but the effects on the global stock markets have also been significant. We track the news events, both in the UK and the US, using the global recession timeline. We observe that the news events related to *ad hoc* bailouts of individual banks from the UK have a contagion effect throughout the period for most of the countries under investigation. This, however, is not found to be the case for the news events originating from the US. Our findings regarding the evidence of contagion effects in the UK reinforce the argument that spreads and contagion—an outcome of the risk perception of financial markets—are solely a result of the behaviour of investors or other financial market participants.

1. Introduction

The Global Financial Crisis began in 2007 when the subprime mortgage crisis originated in the US spread rapidly to most financial markets around the globe. This has resulted in global stock

* Corresponding author. Tel.: +44 1509222156; fax: +44 1509223960.
E-mail addresses: Thanaset.Chevapatrakul@nottingham.ac.uk (T. Chevapatrakul), K.Tee@lboro.ac.uk (K-H. Tee).

http://dx.doi.org/10.1016/j.ribaf.2014.03.003

markets experiencing substantial fall in asset prices and entered a period of high volatility. Major banks and financial institutions also faced serious liquidity problems while governments around the world attempted to coordinate efforts to provide financial rescue.

The 2007 subprime mortgage crisis eventually lead to a global recession. Mishkin (2011) discusses both the crisis and global recession. He terms the first phase as "The Subprime Mortgage Crisis" that began when the French bank BNP Paribas suspended redemption of shares held in some of its money market funds. He carried on to explain that a boom in the US housing prices, which peaked at around 2005, started to decline. Mortgage-backed securities (MBS)—in many cases, securities based on subprime residential mortgages divided into more senior claims that were supposedly safe and junior claims that were recognised to be risky—began to experience huge losses as a consequence. What developed in late 2007 and into 2008 was a series of runs on financial institutions with the collapse of Bear Stearns in March 2008 as one such example.

Mishkin (2011) terms the global recession as the second phase which began with the collapse of Lehman Brothers. The fourth-largest investment bank by asset size with over $600 billion in assets and 25,000 employees filed for bankruptcy on 15th September 2008. It is considered to be the largest bankruptcy filing in US history. Mishkin (2011) argues that although the Lehman bankruptcy led to a large increase in uncertainty and a wave of distressed selling of securities that caused a collapse in asset prices and a drying up of liquidity, three major events following the collapse of Lehman Brothers potentially caused the subprime crisis to spread globally. These events are (i) the collapse of AIG on 16th September 2008; (ii) the run on the Reserve Primary Fund on the same day; and (iii) the struggle to get the Troubled Asset Relief Plan (TARP) approved by Congress over the following couple of weeks.

Mishkin (2011) discusses the link between Financial Crisis and Global Recession, providing evidence showing that GDP growth in the US economy had slowed down in the third quarter of 2008, falling at −1.3 percent per annum. But it was in the fourth quarter of 2008 that the recession that started in December 2007 became the worst economic contraction in the United States since World War II. Real US GDP contracted sharply in the fourth quarter of 2008 and the first quarter of 2009, declining at annual rates of −5.4% and −6.4%, respectively. The unemployment rate skyrocketed, exceeding 10 percent by October 2009. A worldwide recession later ensued, with the world economic growth rate falling at an annual rate of −6.4% in the fourth quarter of 2008 and −7.3% in the first quarter of 2009.

Unlike past crises, such as the 1997 Asian financial crisis, the 1998 Russian crisis, and the 1999 Brazilian crisis, the global financial crisis of 2008 was originated from the largest and most influential economy, the US. This crisis seemed to trigger a prolonged worldwide fear of contagion and cause a fundamental change in the correlations among international markets, including both developed and emerging markets, which eventually lead to a global recession as research from Cheung et al. (2010) suggest. In this paper, we aim to study the effects of this crisis by analysing the potential contagion in the stock markets. Our aim is to investigate whether major news events related to the crisis, reported during the period, had such an effect. We track the news events, in both the UK and the US, during the credit crisis using the Global Recession Timeline which covers the main events taking place in the first and second stages of the credit crisis as discussed in Mishkin (2011). Table 1 lists the major news events covered in the timeline. In addition to the effects of news events, we also include market sentiments and market volatility in our study. Our model adds two control variables: (i) VIX which we use as a proxy for market sentiments; and (ii) the conditional volatility, estimated using a bivariate GARCH technique to capture the spillover effects between markets.

We organise the paper as follows. Section 2 reviews relevant literature. Section 3 describes the data used in this study while the statistical methodology is explained in Section 4. We present and discuss our estimation results in Section 5. Finally, Section 6 concludes.

2. Literature review

This section reviews the literature and discusses the use of contagion measures in research. We also discuss the use of correlation and coexceedance in the literature as well as the application of coexceedance to detect contagion using quantile regression.