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Does Financial Contagion Really Happen?

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Abstract

The purpose of this paper is to answer whether contagion happens during financial crises. This paper surveys the various definitions, measuring, and findings from financial contagion literature. We find that contagion or spillover happened slightly before and shortly during the global financial crisis even there is capital flow from the United States to some EMEs. In conclusion, there is still disagreement about the definition of contagion, whether it is a spillover or contagion, whether there is a negative or positive spillover, also which definition of contagion to be used; wide or narrow definition.

Keywords: Crisis, Contagion, Spillover, Capital flow.

¿Realmente sucede la contagión financiera?

Resumen

El propósito de este documento es responder si el contagio ocurre durante las crisis financieras. Este documento examina las diversas definiciones, mediciones y hallazgos de la literatura sobre contagio financiero. Descubrimos que el contagio o la propagación

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ocurrieron un poco antes y poco durante la crisis financiera mundial, incluso hay un flujo de capital de los Estados Unidos a algunas EME. En conclusión, todavía hay desacuerdo sobre la definición de contagio, ya sea un derrame o contagio, si hay un derrame negativo o positivo, y también qué definición de contagio utilizar; definición amplia o estrecha

Palabras clave: Crisis, Contagio, Desbordamiento, Flujo de capital.

1. INTRODUCTION

Contagion is usually defined as the correlation between markets in excess of that implied by economic fundamentals, however, there is considerable disagreement regarding the definition of the fundamentals, how they might differ across countries, and the mechanism that links them to asset returns. The definition can be ranged from wide to narrow. The narrow/specific definition is as defined by (KING & WADHWANI, 1990).

Since the Great Depression of 1929 to 1932, the first truly major global crisis is the financial crisis of 2007 to 2009. While the crisis initially had its origin in the United States in a relatively small segment of the lending market, namely the subprime mortgage market, it rapidly spread across virtually all economies, both advanced and emerging, as well as across economic sectors. It also affected equity markets worldwide, with many countries experiencing even sharper equity market crashes than the United States, making it an ideal laboratory to revisit the debate about the presence and sources of

contagion in equity markets. Soon after the subprime market burst, the Federal Reserve took the Unconventional Monetary Policy known as Quantitative Easing—that is to buy Large Scale Asset Purchases (LSAP). This policy pushed the capital outflow from Advanced Economies especially the United States into Emerging Market Economies (EMEs). This capital inflow causes financial markets of EMEs such as increasing Stock Prices, Currencies Appreciation, decreasing Government Bond Yield, and decreasing CDS Spread. This is a positive spillover, not contagion. Contagion might happen slightly before and shortly during the crisis (AHMAD & SAHAR, 2019; AHMAD & AHMAD, 2018).

The remainder of this paper is organized as follows: section 2 the definitions of contagion, section 3 the measuring of contagion, section 4 findings from regarding contagion literature, and section 5 conclusions. According to KAMINSKY, REINHART & VEGH (2003), contagion is when there are significant immediate effects in a number of countries following an event in an episode—that is when the consequences are fast and furious and evolve over a matter of hours or days. Changes in international interest rates or oil prices are not automatically included in their working definition of contagion.

While PHILLIPPAS & SIRIOPOULUS (2013) figure out two definitions of contagion. The first definition is the propagation of a crisis from one to another—that is when the location of two economy regions is geographically separated, has a very different structure, and has no direct linkages through a channel such as trade. This scenario is described as shift-contagion. That is a condition where a significant increase in cross-

market linkages after a shock to an individual country (or group of countries). The second definition may contagion be applied to countries with many similarities in terms of market structure and history with strong direct linkages through trade and finance. During a crisis, the transmission of a large shock is just a continuation of the same cross-market linkages or interdependence that exists during more tranquil periods. There are some disagreements and contradictions related to this second definition.

MASSON (1999) stated that the macroeconomic linkages behind contagion can be divided into monsoonal effects, spillovers, and jumps between multiple equilibria. The former effects emanate from the global environment from policies in industrial countries and sweep all developing countries to a greater or less extent, while spillover effects explain why a crisis in one country may affect other emerging markets through linkages operating through trade, economic activity, or competitiveness. Multiple equilibria if the monsoonal and spillover effects do not explain the coincidence of crises, it is argued that there is a role of self-fulfilling expectation in which sentiment with respect to a given country changes purely as a result of a crisis in another country (multiple equilibria).

There are three other definitions by MOLLAH, QUORESHI, & ZALFIROV (2016). Firstly, pure contagion is often understood as a significant increase in cross-market linkages in different markets during a crisis period, above and beyond what can be explained by fundamentals, trade, and exchange rate arrangements. Secondly, wake-up-call contagion, in which the crisis is initially restricted to one

country, providing new information that prompts investors to reassess the default risk of other countries. And last, shift contagion, which occurs when the normal cross-market channel intensifies after one crisis in one country with increased sensitivity to global risk factors, rather than country-specific factors.

RIGOBON (2003) defines contagion as a significant increase in cross-market linkage after a shock to one country or group of countries. According to this definition, if two markets show a high degree of comovement during periods of stability, even if the markets continue to be highly correlated after a shock to one market, this may not constitute contagion. It is only contagion if cross-market comovement increases significantly after the shock. If the comovement does not increase significantly, then any continued high market of correlation suggests strong linkages between the two economies that exist in all states of the world. They also consider that both common shocks and the international transmission of external shocks are observed in the tranquil period as well as episodes of crisis. Then, they use the term interdependence rather than contagion. (AHMAD & AHMAD, 2019).

2. METHODOLOGY

KIM, KIM, & LEE (2015) mention that the literature employs diverse empirical methods to test for the existence of contagion,

including conditional probabilities, correlation coefficients KIM, KIM, & LEE (2015), single regression and VAR-based approaches RIGOBON (2003), multivariate GARCH models (HAMAO, MASULIS, & NG, 1990), copulas (JAYECH, 2016; RODRIGUEZ, 2007), quantile regressions, and other approaches. The overwhelming majority of studies in this area report empirical evidence broadly in support of the hypothesis that contagious spillovers between markets exist, for a variety of crisis episodes, countries, data frequencies, etc.

RIGOBON (2003) challenged these conclusions by pointing out problems with using correlation coefficients as the methodology. They demonstrate that tests done with correlation coefficient may be raised in the presence of heteroskedasticity, endogeneity, and omitted variables, suggesting that there is no way to tell if changes in cross-market correlations are due to these factors or actual changes in underlying correlation structure.

3. RESULT

By applying a narrow definition, RIGOBON (2003) found no evidence of contagion for a number of crises. However, they do find what they call interdependence, the cross-country correlation of asset prices during tranquil and turbulent periods alike. In similar to KIM, KIM, & LEE (2015) found no evidence of increases in correlations subsequent to the 1995-peso crisis, although they do find evidence

after the 1997 Asian crisis. Furthermore, in the 2008 crisis, KIM, KIM, & LEE (2015) used data for 45 large banks in Europe and the United States, find that sensitivity to common shocks increased the fall of 2008 volatility peaks for bank credit default swap spreads.

ROSE & SPIEGEL (2010) were unable to find strong evidence that international linkages can be associated with crisis incidence. In particular, exposure to the United States in either form has little impact. While KIM, KIM, & LEE (2015) provided evidence that contagion effects from the U.S. during the 2007-9 financial crisis varied across days of the week.

RIGOBON (2003) has looked at the behavior of prices around the crises, indicates that capital flow tends to have excess co-movement across countries in the same region as well. It is possible that while crises do not behave significantly differently during the crisis but capital flows do. Indeed, most of the new theories on contagion go in this direction.

KIM, KIM, & LEE (2015) found that changes in sovereign bond yields are strongly positively associated with equity returns during normal times, and this large positive effect reverses to a large negative effect during the Eurozone crisis, providing strong evidence of negative contagion from sovereign bond markets of crisis countries to other equity markets.

KIM, KIM, & LEE (2015) found some evidence of financial contagion around the collapse of Lehman Brothers in September 2008 and figure out a dominant role of foreign investment for the conditional correlations in international equity markets.

KIM, KIM, & LEE (2015) analyzed the transmission of the 2007 to 2009 financial crisis to 415 country-industry equity portfolios. They use a factor model to predict crisis returns, defining unexplained increases in factor loadings and residual correlations as indicative of contagion. The evidence of contagion from the United States and the global financial sector do exist, although the effects are small. On the opposite, there has been substantial contagion from domestic markets to individual domestic portfolios, with its severity inversely related to the quality of countries' economic fundamentals. It proves that the wake-up-call hypothesis, with markets focusing more on country-specific characteristics during the crisis.

FRY-MCKIBBIN, HSIAO & TANG (2014) examined episodes of extraordinary turbulence in global financial markets during nine crises ranging from the Asian crisis in 1997-98 to the recent European debt crisis of 2010-13. The analysis focus on changes in the dependence structures of equity markets through correlation, coskewness and covolatility to address a range of hypothesis regarding contagion transmission using a regime-switching model. They found that the great recession is a truly global financial crisis. Finance linkages are more likely to result in crisis transmission than trade and

emerging market crises transmit unexpectedly, particularly to develop markets.

4. CONCLUSIONS

From the above discussion, it can be concluded that there is still disagreement about the definition of contagion, whether it is a spillover or contagion, whether there is a negative or positive spillover, also which definition of contagion to be used; wide or narrow definition. Although with the econometric/statistical model, the results could support the occurrence of spillover (contagious spillover). But, statistically, some critics such as KIM, KIM, & LEE (2015) is still questioning about the probability of heteroskedasticity, endogeneity, and omitted variables, suggesting that there is no way to tell if changes in cross-market correlations are due to these factors or actual changes in underlying correlation structure.

From the fact above, contagion or spillover only happened slightly before and shortly during the 2007-9 crisis. While in other crises, contagion and spillover did not always occur. Soon after the 2007 crisis, some EMEs got positive effects of the capital inflow from the United States. So, it can be stated that positive spillover occurred. This is reflected in the increasing of portfolio investment in EMEs (SAGHIAN & REED, 2015). Many EMEs show the increasing of the

stock price, currency appreciation, decreasing of sovereign debt yield, and CDS Spread (LO DUCA, NICOLETTI, MARTINEZ, 2014).

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