Japan and the World Economy 28 (2013) 151–157

Contents lists available at ScienceDirect

Japan and the World Economy

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

The relationship between globalization and insurance activities: A panel data analysis

Sen-Sung Chen [a], Shu-Ching Cheng [b], Guochen Pan [c,*], Tsung-Pao Wu [d]

[a] Department of Risk Management and Insurance, Feng Chia University, Taichung, Taiwan
[b] Department of Economics, Feng Chia University, Taichung, Taiwan
[c] Department of Insurance and Actuarial Science, Wuhan University, Wuhan 430072, China
[d] Department of Finance, Feng Chia University, Taichung, Taiwan

ARTICLE INFO

Article history:
Received 22 March 2013
Received in revised form 3 September 2013
Accepted 7 October 2013
Available online 16 October 2013

JEL classification:
C22
C23
R11

Keywords:
Insurance activity
Globalization
Bootstrap Panel Granger causality test
Eastern Asian countries
Causal relationship

ABSTRACT

This study applies a Bootstrap Panel Granger causality test to investigate whether there is causal relationship between globalization and insurance activity. We examine data from sigma reports of Swiss Reinsurance Company for 8 Eastern Asian countries over the period of 1979–2008. Empirically, results for one-way Granger causality show the influence of total insurance activity, life insurance activity, and non-life insurance activity on globalization only in Korea. However, there is strong causality from globalization to insurance activity for Thailand, Malaysia, and the Philippines. In our research, the results show that the causality between globalization and insurance activity varies across countries with different conditions. The findings of this study could provide important policy implications for the 8 Eastern Asian countries under study, namely India, Indonesia, Japan, Malaysia, the Philippines, Singapore, South Korea, and Thailand.

1. Introduction

The past two decades have witnessed increasingly rapid growth in global insurance market activity, particularly in emerging markets. Given the process of financial liberalization and integration, this phenomenon raises questions about whether globalization affects insurance market activity. Given that insurance not only facilitates a myriad of economic transactions through risk transfer and indemnification, but also promotes financial intermediation, it is surprising that in-depth research about the relationship between the insurance market and the economy is not more prominent. Ward and Zurbruegg (2000) argued that insurance market activity may contribute to economic growth by acting both as a financial intermediary and provider of risk transfer and indemnification, allowing different risks to be managed more efficiently and mobilizing domestic savings.

The relationship between globalization and economic growth has been widely discussed in the literature (Dreher, 2006; Dreher et al., 2008; Chang and Lee, 2010). Recent studies have argued that economic growth is strictly determined by globalization, and have given plenty of evidence to policymakers. However, in the existing literature, the connection between globalization and economic growth has not been fully discussed yet, and most empirical results vary according to data and econometric methodology. There is no universally held view of the nature of the causality between globalization and economic growth. Therefore this paper uses new methods to analyze bilateral causality between globalization and economic growth.

In a recent study, Dreher (2006) used a panel data model to discuss how a single globalization dimension affects economic growth. Dreher collected the data of 123 countries during the period from 1970 to 2000. Calculating the overall index and sub-indexes of globalization variables, the results showed that globalization indeed promotes economic growth. The effects of globalization on economic growth have also been frequently found in other papers by the same index of measurement. Only recently have many studies applied a cross-sectional approach to this connection between globalization and economic growth (Blomstrom et al., 1992; Dollar, 1992; Alesina et al., 1994, 2000; Rodrik, 1998; Chanda, 2001;

* Corresponding author. Tel.: +86 27 6875 3204.
E-mail addresses: chenss100@gmail.com (S.-S. Chen), carolallianz@gmail.com (S.-C. Cheng), gcpan@whu.edu.cn, pan.guochen@gmail.com (G. Pan), P9850573@fcu.edu.tw (T.-P. Wu).

0922-1425/$ – see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.japwor.2013.10.001

Garrett, 2001). However, these studies have not adequately controlled the problem of endogeneity. The results might therefore reflect unobserved characteristics, which do not vary over time and are not the consequences of globalization; further, they might reflect reverse causality. Aware of the shortcomings of the cross-sectional approach, some studies have used the panel data approach to examine the relationship between various dimensions of globalization and growth (Borensztein et al., 1998; Greenaway et al., 1999; Dollar and Kraay, 2001; Carkovic and Levine, 2002).

During the past two decades, we have witnessed an unprecedented growth in insurance market activity, particularly in the emerging markets. The processes of financial liberalization and integration raise questions of whether insurance market activity promotes economic growth or not. In reality, the functions of the insurance market not only facilitate a number of economic transactions by risk transfer and insurance indemnification, but also promote financial intermediation. Surprisingly, existing research does not show significant discussion of these issues.

According to Browne and Kim (1993), from 1950 to the end of 1980s, world insurance industry had grown at a rate of over 10 percent annually which had far exceeded that of economic development globally. From 1994 to 2011, though seriously affected by the Asian financial storm in mid-1990s and subsequent world financial storm in 2008, the worldwide total insurance premiums, life insurance premiums and non-life insurance premiums still increased by a compound annual growth rate of more than 5 percent, respectively (Swiss Reinsurance Company, (Swiss Re.), 1996, 2012). Insurance industry has become a prominent portion of the service sector. Beck and Webb (2003) clarified that the life insurance markets have provided a wide range of financial services for consumers and have become a major source of investment capital. They provided empirical evidence to the effect that between 1980 and 1985, the total assets of life insurance companies accounted for only 11 percent of GDP for a sample of 13 countries, but from 1995 to 1997 they accounted for 28 percent of GDP in the same sampling. Life insurance penetration was 1.2 percent from 1961 to 1965 for a sample of 19 countries, but it reached 4.2 percent from 1996 to 2000. The insurance industry has long been known as the risk management service provider for the financial sector. Indeed, the operations of insurance companies have made essential contributions to the development of the banking industry, especially in secured lending. The insurance sector improves international trade as well as commerce across countries and generates bank revenues. Furthermore, insurance companies, with their long-term premium system, may invest in local bond and stock markets, thereby causing the local economy to boom. Thus, these insurance related activities promote economic growth and so motivate researchers to investigate the relationship between insurance activities and economic growth.[1]

While most previous studies have discussed how globalization or insurance activity impacts economic growth, none of these studies has examined the relationship between globalization and insurance activity.[2] Existing studies document the possible influence of globalization on the insurance market from a theoretical perspective (Enz, 2000).[3] In this study, we empirically verify the bilateral relationship between globalization and the insurance sector. We test for the existence of any causality between globalization and total, life, and non-life insurance density (TID, LID, and NLID, respectively) as proxies for insurance market activity by using a bootstrap panel Granger causality test for a sample of 8 Eastern Asian countries over the period from 1979 to 2008.

To the best of our knowledge, this paper is the first study to use a new panel Granger causality approach based on the seemingly unrelated regression (SUR) model and Wald tests with country-specific bootstrap critical values following the Kónya (2006) empirical method to explore the relationship between globalization and insurance activity in Eastern Asian countries.[4] This new methodology makes it possible to investigate for Granger-causality on each individual panel country separately, while accounting for possible bias and cross-sectional inconsistencies that may occur in our panel data.[5] We hope that this study can bridge the gap in the current literature between globalization and insurance activity.

The bootstrap approach has not been used in previous insurance literature. It is widely known that the bootstrap approach produces robust critical values (Hacker and Hatemi-J, 2005).[6] To detect causality between globalization and insurance activities, we utilize the panel causality approach since the information for the panel data set consists of not only a time series dimension but also a cross-sectional dimension. This advantage of panel data analysis has made panel unit root, cointegration and causality tests popular in econometrics. In recent years, the economic or financial instability of one country has been shown to spread to other countries through international trade and economic and financial integration. This emphasizes the importance of the cross-sectional dependency issues considered in our empirical analysis. Even though there is strong evidence of dependence across countries, it is well-known that each country sustains its own dynamics in economic development; this fact calls attention to the need for an empirical modeling strategy that can control cross-country heterogeneity and dominance. Accordingly, the panel causality method that we utilize is able to control for dependency across countries as well as for country-specific characteristics. In this paper, we follow a systematic modeling strategy to examine causality between globalization and insurance activity. We also test for cross-sectional dependence and cross-country heterogeneity by using recently developed and statistically powerful tests instead of assuming the existence of these dynamics in our panel data set. We contribute to the existing literature by addressing these two concerns.

The structure of this paper is as follows: Section 2 presents the data, and Section 3 briefly describes the Bootstrap Panel Granger causality test proposed by Kónya (2006). Section 4 shows empirical results, and Section 5 discusses economic and policy implications from our empirical findings. Section 6 is the conclusion.

2. Data

The data used in this study is from Sigma reports from the Swiss Reinsurance Company for the period 1979 to 2008 for 8 Eastern Asian countries (India, Indonesia, Japan, Malaysia, the Philippines,

[1] Sumegi and Haiss (2008) provide a comprehensive review of the relationship between insurance and economic growth.

[2] The difference between our study and that of Lee and Chang (2012) is that ours uses the bootstrap panel Granger causality model. Lee and Chang (2012) is the first empirical paper to examine the influence of the KOF index of globalization on the development and convergence of international life insurance markets by applying a panel cointegration technique. They found that globalization has a significant impact on the development of international life insurance markets and an impact on reducing the deviation of individual countries' life insurance penetration from the world average.

[3] Enz (2000) indicates that increased globalization in the insurance sector might bring a movement toward the world average.

[4] We consider Eastern Asian countries, because Eastern Asian countries have exercised considerable economic power and have played important roles in the world economy and the past few decades.

[5] Bai and Kao (2006) demonstrated that the assumption of cross-sectional independence is difficult to satisfy in panel data, neglecting this information causes bias and inconsistent results.

[6] Hacker and Hatemi-J, 2005 argued that a bootstrap distribution reduces size distortion compared with an asymptotic distribution by using Monte Carlo simulations.