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Regional differences in development of life insurance markets in China

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ABSTRACT

This study employs flexible Fourier unit root test proposed by Enders and Lee (2012) to examine the regional differences in life insurance market development in China. We find that property of stationarity for life insurance market development varies across different regions. Specifically, stationarity prevails in provinces with middle and low income, indicating characteristics of convergence and the possibilities to forecast future movements of life insurance activities based on past behavior, while 7 out of 10 provinces in high-income group show non-stationarity, suggesting unbound development in these regions and weak predictability. Justifications for the test results are presented from aspects of development of financial market, market structure of life insurance and business strategy of life insurance companies, and implications for policy-making are also given.

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1. Introduction

Since 1950, the global insurance industry has seen an annual growth rate of over 10%. For the period 1985–2007, the world's total written real insurance premiums have increased by approximately 5.5 times from US\$0.63 trillion to US\$4.13 trillion, and the life and non-life insurance premiums have increased by approximately 7.5 times and 3.9 times respectively. However, the insurance development in China encountered huge set-back during the planned economy era when “private insurance was neither much needed nor purchased” (Dorfman, 2008) because of the exaggerated use of public funds for coverage of losses, comprehensive social insurance and government ownership of the means of production. Most of the domestic insurance business was shut down before the starting of the policy of reform and opening in 1978. Since then, the economic reform of China has been a spectacular economic success which has

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generated rapid economic growth over last three decades and the country has moved from a centrally planned economy towards a market economy. Instead of being tightly controlled and centrally planned the economies become market-oriented. Privatization has been at the forefront of the economic transition process when insurance industry is considered. Privatization incentives the development of risk management and growth of insurance demand and at the same time insurance markets became more and more deregulated and liberalized. Insurance industry keeps growing at a high speed. In 2010, the Chinese insurance market had total gross written premiums of \$214.3 billion, ranking 6th in the world insurance market, representing a compound annual growth rate (CAGR) of 26.7% between 2006 and 2010. Although domestic insurance markets are still modestly developed in terms of insurance density compared to their western counterparts, insurance premium growth in China has outpaced economic growth and China's insurance industry is playing an indispensable role in supporting reform, protecting economy, stabilizing society and benefiting people.

Life insurance, which is thought to have significant function of financial intermediation compared to non-life insurance (Ward and Zurbruegg, 2000), has grown in quantitative importance as an integral part of the general development of the financial sector with more recently the emphasis increasingly being shifted to insurance sectors. When the scale of insurance market increases, the issues about structure are more and more concerned. The development of life insurance market was inferior to non-life insurance at the first stage of development in China. After the life insurance premium written surpassed non-life insurance in 1997, life insurance market left non-life insurance market far behind in subsequent years. In 2010, the written premium of life insurance reaches USD156 billion which was more than double of non-life insurance at the same period of USD58 billion. It is well believed that though life insurance and non-life insurance share some characteristics, such as financial intermediation, risk transfer and indemnification, in common, the benefits of risk transfer and indemnification are likely to be major characteristics of non-life insurance, while financial intermediation is a primary aspect of life insurance (Ward and Zurbruegg, 2000). As such, compared to non-life insurance, life insurance may have its own special way to promote economy; the determinant factors for life insurance development may also be significantly different from those for non-life insurance.

Few studies have used unit root tests to investigate the stationarity characteristics of insurance markets development. Cummins and Outreville (1987) implement unit root tests with panel data to investigate the stationary processes of property-liability insurance premiums. Niehaus and Terry (1993) test written premiums, losses paid and surpluses and find that the hypothesis of a unit root is not rejected, which is inconsistent with stationarity. Ward and Zurbruegg (2000) employ the Phillips and Perron (1988) unit root test and demonstrate that the insurance premiums written are non-stationary for nine selected OECD countries. Harrington and Yu (2003) try to apply a battery of unit root tests to investigate whether underwriting margins are stationary under different assumptions concerning deterministic components in the data generating process (DGP). Lee et al. (2010) implement panel seemingly unrelated regressions augmented Dickey–Fuller unit root test to examine the stationarity of non-life insurance consumptions during the period 1979–2005 for 31 countries in the world, and find that whether non-life insurance consumptions are stationary or not will be affected by different regions and their levels of development. The stationary characteristics of insurance market development should be seriously considered when conducting economic or financial policies. In the case of life insurance market, a rejection of the null supports the alternative hypothesis of a stationary series in which shocks to life insurance market development have temporary effects. When the development of life insurance markets are trend stationary (mean-reverting), then a series should return to its trend path over time, and it should be possible to forecast future movements in life insurance activities based on past behavior. By contrast, series that are non-stationary in levels have a unit root, and shocks change the long-run level of the series permanently. In that case, life insurance market development are characterized by hysteresis or path dependency, the volatility of life insurance market can grow without bound in the long run, so that it is not possible to forecast the future movement based on the history. In that sense, Diebold and Kilian (2000) propose that pretesting for unit roots before applying forecasts yields superior forecasting performance, as opposed to the alternatives of working always with differenced series or working always with level series. Moreover, stationarity test also has great implication for policy making. A rejection of the null supports the alternative hypothesis of a stationary series in which shocks to life insurance market have temporary effects, life insurance market will adjust itself and restore to its original developing path over time. In that

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