A model of the interactions between asset prices bubble bursts and twin crises

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Abstract

This study develops a model to analyze the interactions between twin crises—the banking crisis and the currency crisis—and their coincidence with the asset prices bubble bursts. Results show that the origin of both crises comes from agents worrying about the upcoming asset prices bubble bursts when bad economic fundamentals are announced. There are multiple equilibria crises in both two systems. Twin crises are caused by deteriorated fundamentals and fundamental-driven self-fulfilling prophecy.

Our model offers some policy implications. First, it is unable to prevent twin crises by suspending deposit convertibility, full deposit insurance and financial dollarization. Second, suspension of currency convertibility can prevent a currency crisis, but not a banking crisis.

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Journal of Information & Optimization Sciences
Vol. 33 (2012), No. 2 & 3, pp. 273–294

However, the effect of lender of last resort is ambiguous. Finally, strict risk supervision and minimum capital requirements each can curtail twin crises.

Keywords: Twin crises Bursting bubble Self-fulfilling prophecy

1. Introduction

When the sub-prime crisis erupted in August 2007, financial markets around the world experienced a great shock. For more than a decade prior to 2000, interest rates had been relatively low, inducing substantial excess liquidity in the US financial system. This in turn created huge surges in housing prices and ultimately caused the rapid growth of the real estate bubble.

As in a typical bubble boom-burst scenario, the 2007 crisis involved a sudden reversal in market sentiment following a period of euphoria. Finally, the housing bubble burst and housing prices plummeted. As a result, many mega-banks went bankrupt with serious losses.

Although many studies discuss crises problems, most of these papers focus on either financial (currency) crises or banking crises individually. Theoretical analysis on both crises and their interactions between bubble bursts is largely much ignored.[1]

Bleaney, Bougheas and Skamnelos (2008), who combined the SGM with a standard banking crisis model, postulated that even in an environment where the fundamentals of the two sectors are not related, fragility in one sector can cause a panic in the other sector. For example, runs on the banking system may cause a currency crisis, and vice versa. In this case, bad news in the currency market may cause depositors to prematurely withdraw their funds from banks to convert them into foreign currency and avoid a loss of purchasing powers. Alternatively, bad news about bank insolvency may cause information-based bank panics. When bank assets are liquidated and distributed to depositors, depositors immediately speculate home currency, and cause twin crises to occur. Similar to the SGM arguments, there are multiple equilibria, with either twin crises or no crisis occur, depending on depositors' expectations of other depositors' actions. However, we believe that Bleaney, Bougheas and Skamnelos's (2008)

[1] Kaminisky and Reinhart (1999, p473) also stated that "whatever the causes of a currency crisis, neither the old literature nor the new models pay much attention to the interaction between banking and currency problems".