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Essays on Exchange Rates and Monetary Integration in East Asia after the 1997–1998 Financial Crisis

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East Asia was hit by a severe financial crisis in 1997. The crisis led to a proliferation of research on the exchange rate regimes and financial stability in the region. A large literature suggested that East Asian economies should move toward exchange rate coordination and monetary integration. However, there is no explicit form of policy coordination to date. The inconsistency between actual exchange rate behavior and research that suggested monetary integration comprises the motivation of this thesis. It may complement the existing literature about the degree and the pattern of economic integration in the region and help shed light on how far the region is from being economically feasible to initiate monetary integration.

The thesis is divided into seven chapters. Chapter 1 is the Introduction which described the research background, the definition of monetary integration, the research questions, the methodologies, and the structure of the thesis. Chapters 2 to 6 are five essays centering on the topic of exchange rates and monetary integration in East Asia. The main findings of the five essays are summarized as follows.

Chapter 2 provided a literature review on exchange rates and monetary integration in the region. Although considerable research has been devoted to the topic, little attention has been paid to a number of issues: (i) research on the evolution of exchange rate regimes in the region after 2004 is relatively rare; (ii) it is still not clear about the implications of the original sin hypothesis for monetary integration in the region; (iii) little is known about the impact of vertical intra-industry trade on the correlation of business cycles, one of the most important criteria of monetary integration, among East Asian economies.

Chapter 3 explored the evolution of the de facto exchange rate regimes in the region over 2003–2014. Based on a seemingly unrelated regression model, the empirical results are three-fold: (i) the exchange rate regimes in the region changed considerably over time; (ii) the role of the US dollar became more important during the recent global financial crisis; (iii) average correlation among exchange rates of East Asian currencies increased over time even after controlling for the effect of potentially important international and regional currencies including the US dollar, the euro and the Japanese yen. The results imply the important unobserved common factor that influenced the daily movements of exchange rates of East Asian economies, which might serve as another indicator of increased economic linkages in the region.

Chapter 4 examined the original sin hypothesis and analyzed whether the elimination of “original sin” through monetary integration could be viewed as a benefit for monetary integration in East Asia. The empirical analysis using a panel dataset, based on a random effects tobit model, revealed that it was rather hard for all East Asian emerging markets to eliminate “original sin” through domestic policies within the intermediate term. The relation between “original sin” and currency mismatch was also checked based on the available data. Although on average economies with higher level of “original sin” were likely to have bigger pressure of currency mismatch over the past decade, there was no direct relationship between the annual variation of the level of “original sin” and that of currency mismatch. Combining the experience of the 2008 euro area crisis, this research suggests that there is no direct relationship between monetary integration and strengthened financial stability through the elimination of “original sin” in the region.

Chapter 5 focused on the impact of vertical intra-industry trade on the correlation of business cycles in the region. This analysis used the threshold method to divide trade into inter-industry trade, vertical intra-industry trade and horizontal intra-industry trade. Using a fixed effects model and a random effects model, the empirical analysis found that the rise of vertical intra-industry trade from the 1990s until the recent global financial crisis strengthened the correlation of business cycles in the region because it increased total intra-industry trade (not because it increased the share of vertical intra-industry trade in intra-industry trade). The recent global financial crisis strongly affected the region; the average share of vertical intra-industry trade and intra-industry trade as a whole declined. Moreover, the crisis brought a temporary halt to the increased synchronization of business cycles among East Asian economies from 2003 to 2007.

Chapter 6 extended the analysis of the suitability of monetary integration in East Asia to other evidence by examining other optimum currency areas criteria and real effective exchange rates. The first part of the chapter found that capital mobility increased considerably compared to two decades ago. Nevertheless, capital market integration process was affected by the recent global financial crisis. The second part of the chapter evaluated the suitability of monetary integration in the region using real effective exchange rates. In a vector autoregressive model, granger causality tests showed that a subgroup of East Asian economies seemed to be more closely associated.

Chapter 7 presented the conclusions. The thesis concluded that economic linkages among East Asian economies increased significantly during the past years. Although there is still no explicit form of exchange rate coordination and monetary integration in the region to date, economic forces that increased the desirability of monetary integration accumulated rapidly in the region.

References

