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The Theory and Empirics of Financial Development, Integration and Regionalism in the East Asian Bond Markets

Topic and Research Question

The Asian financial crisis of 1997/98 revealed the vulnerabilities of Asian economies that were heavily relying on short term finance in foreign currencies. A developed bond market was said to provide a means to overcome these mismatches and has since been a major objective of policy makers in the region. The thesis tracks the development, integration and regionalism of the East Asian bond markets and answers three main research questions:

- What are the potentials of developing and integrating domestic bond markets?
- What is the state of development, integration and regionalism in the East Asian bond markets?
- What are the determinants of bond market growth in East Asia? How can the uneven speed and progress in the regional development of East Asian bond markets be explained?

The thesis deals with 10 markets targeted by two regional initiatives, the Asian Bond Market Initiative (ABMI) and the Asian Bond Funds (ABF): China, Hong Kong, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Thailand and Vietnam.

State of the Art

Bond markets in general have not seen as much exposure in academic literature as other financial markets, such as the banking sector or equity-markets. Existing literature on the East Asian bond markets primarily focuses on regionalism. In other fields research is scarce. The most encompassing work on financial integration comes from Yu, Fung and Tam (2007). Major empirical research on determinants of East Asian bond market growth is from Eichengreen and Luengnaruemitchai (2006) and Bhattacharyay (2011). Both papers were used as a starting point for the econometric model.

Methodology and Approach

A review of economic literature examines the potentials of developing and integrating domestic bond markets. These potential benefits serve as the theoretical basis of the thesis.

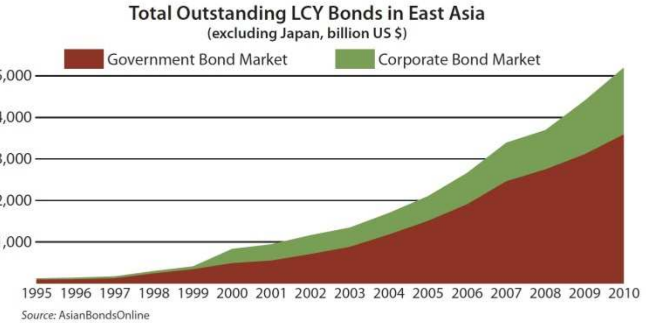
A cross-country comparison of size and liquidity from 1998 to 2012 is used to track the development and determine the current state of the region's bond markets. The government- and the corporate bond markets are analyzed separately.

To determine the current state of regional integration and regionalism, literature on financial integration and regionalism in the East Asian bond markets is reviewed.

A multivariate econometric panel model is applied to find the determining factors of bond market growth in the region. The data encompasses the panel of 10 countries over a period from 1995 to 2010. Data availability is the major impediment for several econometric methods. A GLS estimator, accounted for heteroskedasticity, serial correlation and/or cross-sectional correlation when necessary is used to determine the effect of several macroeconomic and institutional factors on bond market growth. The model specification is based on the work of Eichengreen and Luengnaruemitchai (2006) and Bhattacharyay (2011) but extended by several additional variables found in Dickie and Fan (2005) and Burger and Warnock (2006). Additionally, three hypotheses that were found to potentially influence the development of bond markets during the review of literature are tested.

Main Facts

Both the East Asian government- and corporate bond markets have been developing rapidly since the Asian crisis in terms of size and liquidity. But despite this fast development liquidity remains low, especially in the secondary markets, and the region's markets remain highly heterogeneous. Overall China, Japan and Korea account for over 90 % of the regional bond market.



Bond Market Development in East Asia

During the review of economic literature on the potentials of developing bond markets three hypotheses are proposed over factors that might have had a strong impact on bond market growth in East Asia:

The first hypothesis expects the development of the government bond market to have positive externalities (spill-over-effects) on the development of the corporate bond market by providing investors with additional information.

The second hypothesis assumes that bond market growth was heavily driven by the region's central banks' monetary policy. As a massive stock of foreign exchange reserves was built in East Asia, central banks had to reduce liquidity in the financial system to avoid inflation (monetary sterilization). Most countries achieved this by issuing central bank bills that count towards the government bond market.

The third hypothesis presumes that the East Asian bond markets were able to play the role of a spare tire during the recent global financial crisis by partially substituting receding credit extended by the banking sector, as the global banking sector deleveraged.

Results

The East Asian bond markets experienced rapid development in terms of both size and liquidity. But in most markets there remains room for development, especially in terms of liquidity. While liquidity improved, it continued to be scarce in most markets; secondary markets are virtually non-existent in the corporate bond market. The major impediment is the investor base that is dominated by institutional investors that hold their securities until maturity.

Regional integration is weak at best and is primarily impeded by diverse institutional- and regulatory frameworks, high transaction- and settlement costs and the lack of financial openness in some markets.

Two regional initiatives have been created to foster the development of the region's bond markets: the Asian Bond Market Initiative (ABMI) and the Asian Bond Funds (ABF). The development of the region's bond markets was almost exclusively local with only little influence exerted by the two initiatives, as they lack independent means and are limited to making general proposals.

The multivariate econometric model found several macroeconomic and institutional factors influencing bond market growth in East Asia. Due to the small sample size and the large number of determinants some results in the corporate bond market seem ambiguous.

The hypothesis that the development of the government bond market may spill-over to the corporate bond market could not be confirmed, instead evidence for crowding-out effects of government bond debt could be found.

Monetary sterilization by the region's central banks was found to have a significant impact on growth in the region's government bond markets.

Lastly, results indicate that the East Asian bond market was able to play the role of a spare tire during the global financial crisis, with bond markets growing about 2 to 2.4 % specifically due to the global financial crisis from 2007 to 2010.

	Theory	Government	Corporate
Bank Credit	+ / -	+	- (ambig)
Exchange Rate Stability	+	insig	+
GDP per capita	+	insig	+
Interest Rate Spread	-	+	-
Openness	+	+	- (ambig)
Size of the Economy	+	+	-
Bank Concentration	-	insig	insig
Corruption	-	-	-
DC Pension System	+	-	+ (ambig)
Government Commitment	+	+	+
Regulatory Framework	+	+	insig (ambig)
Rule of Law	+	-	+ (ambig)
GFC-Dummy	+		+
Government Bond Market	+		-
Sterilization	+	+	

Macroeconomic and Institutional Factors of Bond Market Development in East Asia

References

All references can be found in the full version of the MA thesis available at othes.univie.ac.at.

About the Author

Thomas Kemetmüller studied economics and East Asian Economy and Society at the University of Vienna. His academic interests encompass financial markets, econometrics, the global financial crisis and financial regionalism.

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